Arborist STC19-28 Mk2

Operators' Manual

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INTRODUCTION

This manual explains the proper operation of your machine. Read these instructions thoroughly before operating and maintaining the machine. Failure to do so could result in personal injury or equipment damage. Consult your GreenMech supplier if you do not understand the instructions in this manual.

CAUTION! This symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury to yourself or others, and carefully read the message that follows.

We recommend that you keep this manual with the machine in the box provided. Note here the serial number and quote it in any communications. This is important when ordering spares. Remember to include all numbers and letters.

Serial Number.....

Write in the number!

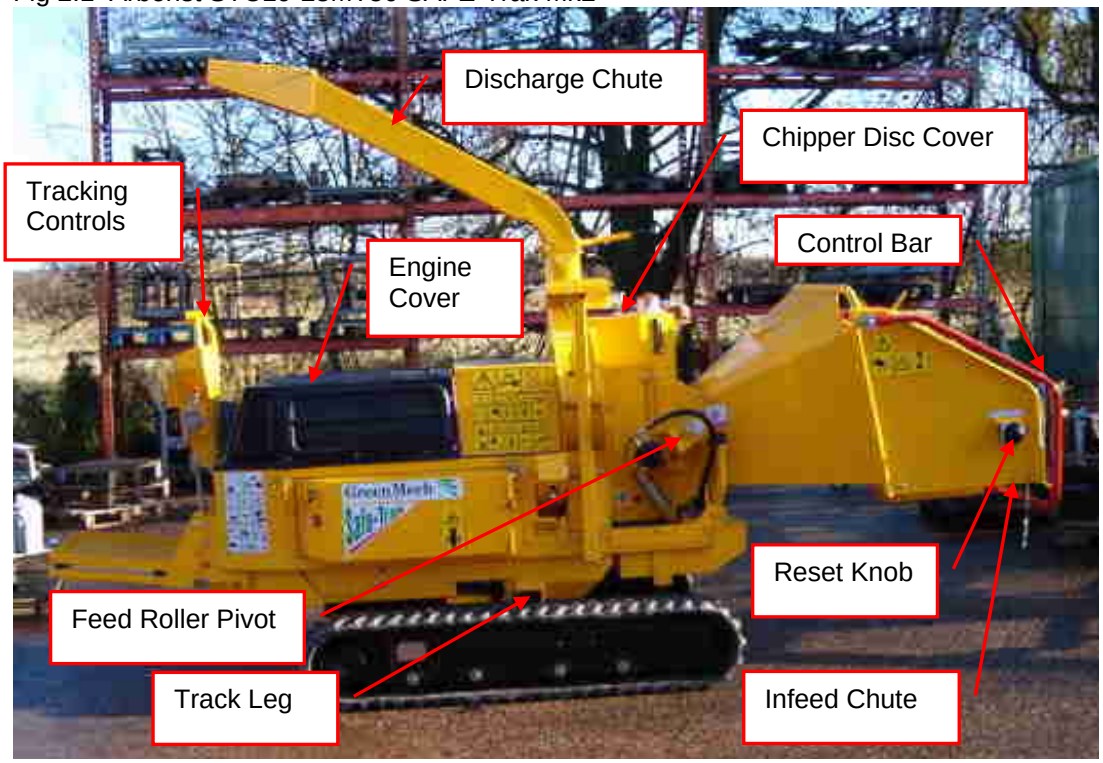
This manual covers the following engine driven self-propelled **SAFE-Trak** models.
Arborist STC19-28MT50 Mark2
If in doubt, always quote the serial number in any communications.

The information in this manual is correct at the time of publication. However, in the course of development, changes to the machine specification are inevitable. Should you find any information to vary from the machine in your possession please contact your GreenMech dealer for up to date information.
The manual may contain standard and optional features and is not to be used as a machine specification.

PURPOSE

CAUTION! This machine is designed solely to chip wood and must not be used for any other purpose. The machine should only be used by trained operators who are familiar with the contents of this instruction manual. It is potentially hazardous to fit or use any parts other than genuine GreenMech parts. These Wood Chippers are for Off Highways use only. The company disclaims all liability for the consequences of such use, which in addition voids the machine warranty.

Fig 2.1 Arborist STC19-28MT50 SAFE-Trak Mk2



TECHNICAL SPECIFICATION	Arborist STC19-28MT50 SAFE-Trak Mk1
Max capacity	190mm x 280mm (7.5inch x 11inch)
Infeed opening	1200mm x 840mm
Throat size	190mm x 280mm
Chipping disc	600mm x 25mm
Speed	1500 rpm
Chipping disc-blades	4 Discs
Feed rollers	2 x Hydraulic & Spring Tensioned
Power control	No-Stress Electronic Feed Roller Controller
Power unit	50hp water cooled diesel
Fuel capacity	60Lt
Hydraulic capacity	50Lt
Length (maximum in work position)	4150mm
Length (minimum for transport)	3550mm
Width over body	1320mm
Track width	1200mm – 2012mm
Track size	250mm x 1768mm
Height	2390mm – 2720mm
Weight	1800Kg
Ground pressure	0.26kg/cm^2

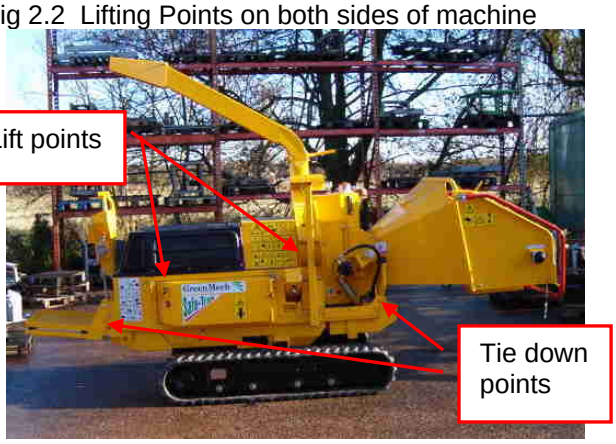
Noise
Noise levels vary depending on type of material being processed. Also duration of operation is variable. Noise emission tests have been carried out and the guaranteed sound power level is displayed on the CE plate as follows: **Lwa 120dB**
Minimise noise by switching to idle or stopping the engine whenever chipping is not in progress.

Full details are included in the Risk Assessment in the Appendix.

⚠ CAUTION! Operators must wear appropriate ear protection. Bystanders must be kept away from proximity of machine.

Lifting Points
Two lifting point are on each side of machine and tie-down anchor points are on each corner of the chassis (fig 2.2).

Fig 2.2 Lifting Points on both sides of machine



3.1 ENSURE:

3.1.1 All Operators must be fully trained in the use of their machine.
(Certificated Operator training courses are available on request.)
3.1.2 The Operators Manual is read and understood.
3.1.3 The enclosed HSE guidance notes are read and understood.
3.1.4 Appropriate Personal Protective Equipment (PPE) is worn, including non-snag clothing, gloves, eye and hearing protection.
3.1.5 These Wood Chippers are for Off Highways use only.
3.1.6 The machine is positioned with the body level.
3.1.7 The infeed chute (bottom control bar) at least 600mm (23.62 inches)above ground level (fig 3.1) .
3.1.8 All guards are fitted and in good condition.
3.1.9 Blades are in good condition and secure.
3.1.10 All blades are sharpened or replaced in “Sets”.
3.1.11 All fasteners are checked regularly for tightness.
3.1.12 Only “WOODEN” materials free of nails etc., are fed into the machine.
3.1.13 Correct First Aid Kit including large wound dressing is available on site.
3.1.14 Fire extinguisher is available on site.

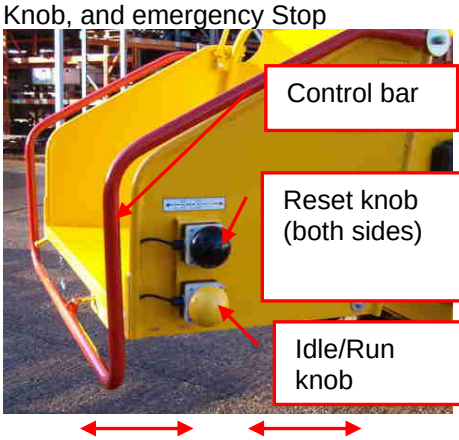
3.2 NEVER:

3.2.1 Work on the machine until the chipper disc is stationary and engine or PTO has stopped.
3.2.2 Operate the machine without protective clothing (Eye protection, Earmuffs, and Gloves), or high visibility clothing when working on roadside.
3.2.3 Operate with loose articles of clothing, including loose cuffs on gloves.
3.2.4 Work under a raised component without adequate safety support.
3.2.5 Operate the machine with untrained personnel or with individuals present who are not involved in the chipping operation.
3.2.6 Leave the machine unattended with engine running at full operating speed. (See section 4)
3.2.7 Put any part of your body into the infeed chute while the machine is running.
3.2.8 Operate the machine whilst under the influence of alcohol or drugs.
3.2.9 Stand between the tracks and the chipper body.
3.2.10 Stand within 2 metres of the tracks when the legs are being extended.
3.2.11 Extend legs to put the tracking controls beyond reach.
3.2.12 Stop the engine or operate the chipper when moving directly up or down a slope.
3.2.13 Operate inside a building or confined space.
3.2.14 Climb on the infeed chute.
3.2.15 Impede or obstruct the Stop control.

3.3 ALWAYS:

3.3.1 Check machine before starting (see Section 4 Preparation and Section 5.1 Operation: Pre-work checks).
3.3.2 Be aware of potential hazards in the work area, i.e. uneven ground, tree roots, obstructions and type of materials being fed into the machine.
3.2.3 Feed from the side.
3.3.4 Keep clear of discharge area.
3.3.5 Have a second trained operator within easy reach of the machine.
3.3.6 Maintain strict discipline at all times.
3.3.7 Service machine at specified periods. (see Section 6: Routine Maintenance).
3.3.8 Note direction of discharge chute and if necessary note the wind direction to prevent debris from being blown into highway or where it could affect members of the public.
3.3.9 Adjust legs to keep the body level.
3.3.10 Check the route to the worksite for gradients, undulations and obstructions.
3.3.11 Remove key before doing any maintenance.

Fig 3.4.1 Bottom Control Bar, Reset Knob, and emergency Stop



Control Bar positions
(Viewed towards right of chute)
FEED IN FEED OUT STOP

(Viewed towards left of chute)
STOP FEED OUT FEED IN

Fig 3.4.2 Engine STOP RDS Controller

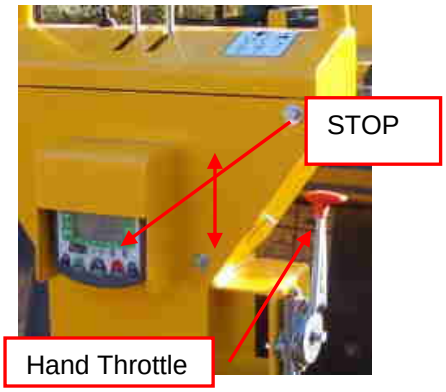
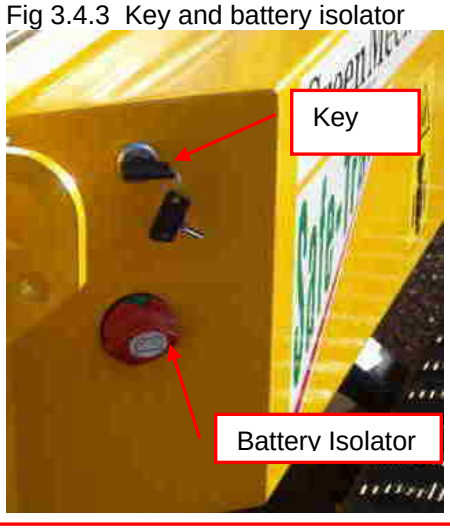


Fig 3.4.3 Key and battery isolator



3.4 Safety Controls and Switches

3.4.1 Emergency Stop/Control Bar (fig 3.4.1)

In the event of an emergency, push the emergency stop bar to STOP the feed rollers.

3.4.1.1 Once the emergency has been rectified the following sequence should be carried out:

3.4.1.2 To restart rollers press either reset knob.

3.4.1.3 Should the stop bar be tripped accidentally in normal working conditions i.e. NOT an emergency, then the rollers can be recovered by performing the above sequence.

3.4.1.4 To reverse (Feed Out) the rollers push the control bar into the middle detent. To regain forward (Feed In) pull the control bar away from the chipper. It is not necessary to use the reset knob.

⚠ CAUTION! Regularly check that the bar locates in the 3 correct positions. At no time may this system be removed, jammed, disabled or otherwise impede from effecting the infeed stop control.

3.4.2 Engine stop switch

Press STOP button (fig 3.4.2) and wait for engine to stop, before turning key (fig 3.4.3) to OFF

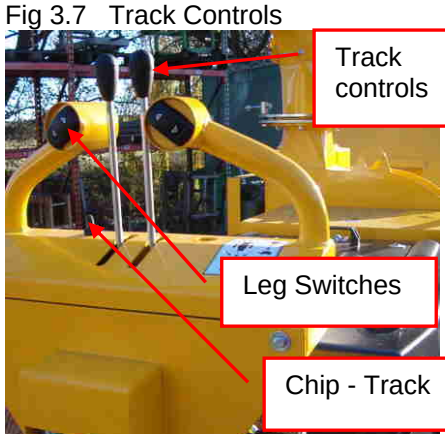
⚠ CAUTION! Do not restart engine until hazard has been removed.

Note: Refer to Operation paragraph 5.5 for normal stopping procedure.

3.4.3 Battery isolator (fig 3.4.3)

Turn switch to OFF

Fig 3.7 Track Controls



3.5 Control cut-outs

Cut-outs are installed to stop and prevent restarting due to specific events.

3.5.1 Engine overheating is protected by thermal cut-out switch in coolant circuit.

3.5.2 Low engine oil pressure is protected by pressure switch in the engine oil pump.

3.5.3 Engine cover opening is protected by a microswitch to shut off the fuel solenoid.

3.6 No Stress system

3.6.1 Speed sensor in alternator disables feed roller FEED IN mode when engine speed is below factory pre-set value.
LED light glows Green at normal operating speed, Red at overload and idle and Red Flash when start switch turned on.

3.7 Tracking Controls (Fig 3.7)

3.7.1 A two position toggle switch selects either tracking or chipping. In track mode the No Stress system will not allow the feed rollers to operate. In chip mode the legs cannot be extended and the drive to the track pumps is disconnected. (Fig 3.7)

3.7.2 A three position switch controls each extending leg. Press in desired direction.

3.7.3 Lever controls operate the drives to the tracks. Push for forward motion. Pull for reverse motion.

3.7.4 A hand throttle (fig 3.4.2) is fitted for use only when the machine is being tracked, not when chipping.

Note: The chipper disc runs whenever the engine is running.

3.8 SYMBOLS on the MACHINE

These relate to operator safety, correct use and maintenance of machine. Check that all personnel understand and are familiar with meanings before using the machine.

Important Safety symbols

Take the correct action shown on the display below the stated hazard (see table)

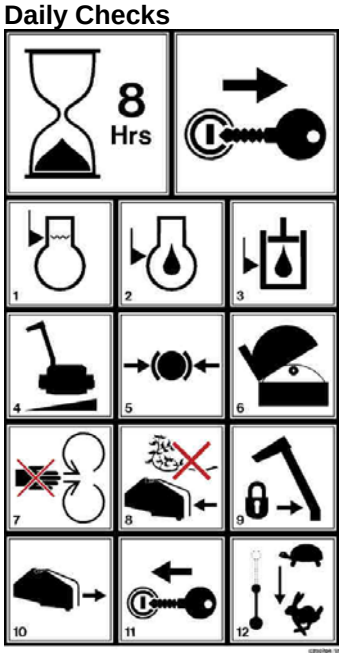
General Safety

Caution!		**Remove key**		**Do NOT start engine**
Caution!	**Beware flying object hazard**	**Beware noise hazard**	**Beware trapping hazard**	**Brakes off -incorrect**
Read instruction manual	**Wear helmet & visor**	**Wear ear protectors**	**Wear proper clothes**	**Brakes on -correct**
Machine not level -incorrect	**Beware flying object hazard**	**Beware flying object hazard**	**Beware exposed drives hazard**	**Caution!**
Machine level -correct	**Keep bystanders away**	**Position and lock discharge chute**	**Fit all guards**	**Keep nuts tight**

Important Operating Checks Notice

Before use carry out daily the stated checks in the order shown (see table)

Daily Checks



Every 8 Hours – Daily checks		**Remove key stop engine**
1. Check coolant level	**2. Check engine oil level**	**3. Check hydraulic oil level**
4. Check machine is level	**5. Check brakes are on**	**6. Check chipper disc is clear of debris**
7. Check all guards are in place	**8. Check infeed chute is clear of debris**	**9. Lock discharge chute**
10. Pull control bar to work position	**11. Start engine**	**12. Increase from Idle to Run**

Important Safety Information

Caution!

Do NOT drive up or down slopes of more than 25°

Caution!

Do NOT operate or traverse on slopes of more than 35°

Caution! Beware Crushing hazard!

Do NOT work <u>or</u> park directly up or down slope.

Caution! Beware crushing hazard

Action: Do NOT stand in area between machine body and tracks

Caution! Beware of thrown object hazard

Action: Keep away from fast discharge chute

Caution!

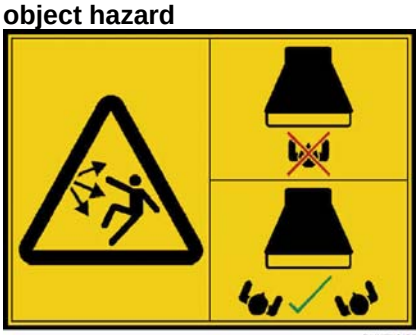
Do NOT operate with infeed chute at <u>less</u> than 600mm from ground. (<u>bottom bar</u> machines)

Ear defenders must be worn

Face shield must be worn

Safety Information (continued)

Caution! Beware of thrown object hazard



Action: Stand to side of infeed chute, NOT in centre.

Transport Lock

Lock this component before moving machine

Sound level

Ear defenders must be worn

Lift Point

Caution!

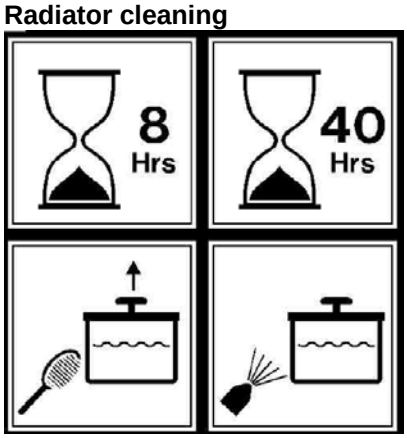
Do not climb into infeed chute

Caution! Infeed chute trapping hazards

Keep hands clear. Do not climb in

Maintenance Information

Radiator cleaning



8 Hours	40 Hours
Check radiator screen	Blow out radiator core

Diesel Filler

Grease point

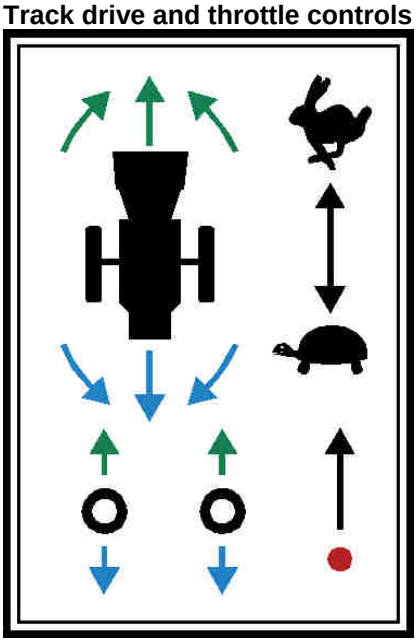
40 hours / weekly

Hydraulic Filler

High temperature grease 40 hours

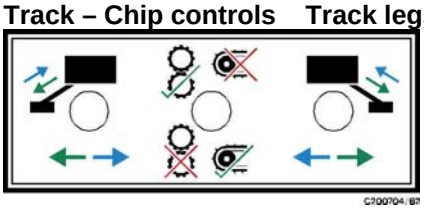
Operating Information

Track drive and throttle controls



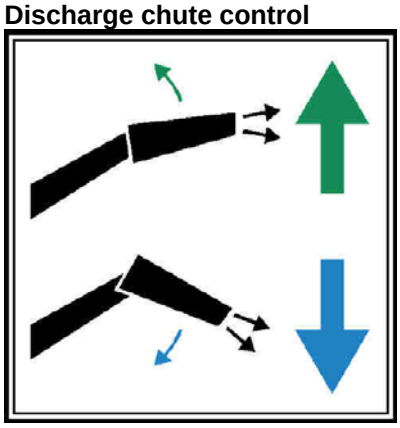
Left lever
LH track: forwards – backwards
Right lever
RH track: forwards – backwards
Lever with red knob
Engine throttle slow - fast

Track – Chip controls Track legs



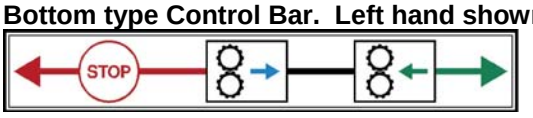
Outer switches – legs extend - retract
Centre switch – Up to chip: Down to drive

Discharge chute control



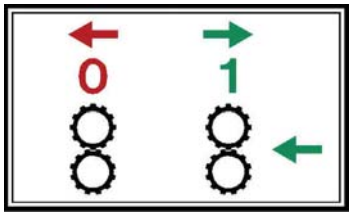
Green is UP Blue is DOWN

Bottom type Control Bar. Left hand shown



Push to STOP : Centre-feed out : Pull–feed in

Reset lever: Left hand shown



Pull to reset

Fig 4.1 Hydraulic tank valve

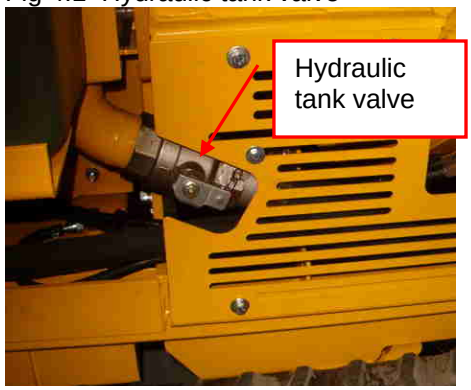
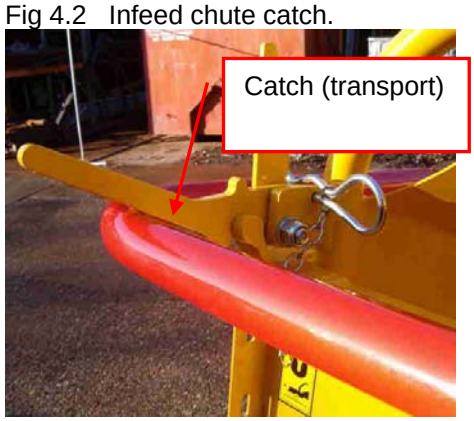


Fig 4.2 Infeed chute catch.



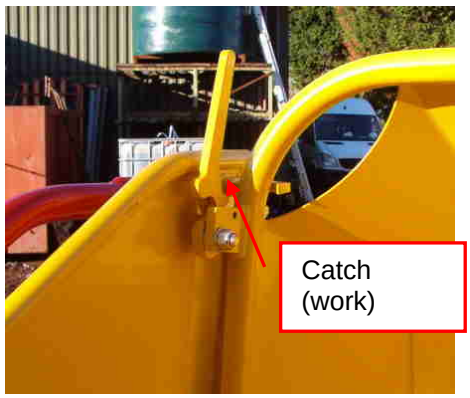
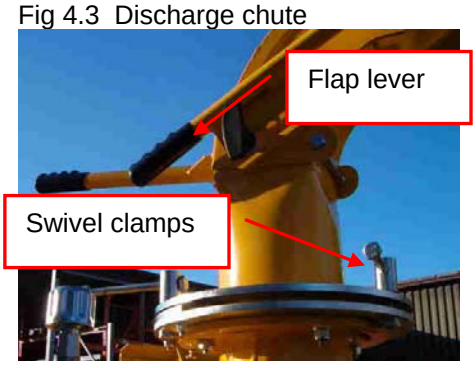


Fig 4.3 Discharge chute



4.1 Initial Fuelling and Parking

4.1.1 Fill the fuel tank with diesel. See section 6.
4.1.2 Top up the hydraulic tank if necessary, with the correct oil. See Section 6.

⚠ CAUTION! Ensure that hydraulic tank valve (Fig 4.1) is set and locked to Open. Failure to do so will damage components.

4.1.3 Position the machine body level and adjust until the infeed chute is in correct position - 600mm min from the ground. (see fig 3.1)

4.2 Infeed Chute unfolding

4.2.1 Remove the transport pin for the infeed chute catch, release the catch (fig 4.2)
4.2.2 Using the tubular edge as a handle, lower the infeed chute to the work position and reset the catch.
4.2.3 Measure the height of the infeed chute and readjust the legs as required.

⚠ CAUTION! The infeed chute must be positioned correctly above the ground. (fig 3.1)

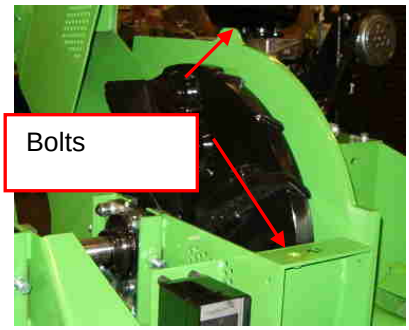
⚠ CAUTION! Before travelling, always fold up and secure the infeed chute.

4.3 Discharge Chute (Fig 4.3)

4.3.1 Release the swivel clamps and point the chute in the desired direction, always pointing away from the infeed.
4.3.2 Set the flap at the desired height and tighten the flap lever clamp.

⚠ CAUTION! When travelling, lock the discharge chute pointing away from the driver.

Fig 5.1. Chipper Disc Cover



5.1 Pre-Work Checks:

5.1.1 Check machine is stationary, start key removed,

5.1.2 Check that machine is level and infeed chute is set at correct height. (fig 3.1).

5.1.3 Check engine oil level (Refer to engine instruction manual).

5.1.4 Check hydraulic oil level (See Section 6).

5.1.5 Check fasteners for tightness and hydraulic connections for leaks.

5.1.6 Check condition of disc blades.

5.1.6.1 Raise or remove engine cover.

5.1.6.2 Remove the bolts retaining chipper disc cover. (Fig 5.1)

5.1.6.3 Using discharge chute handle as a lever, swing back cover onto stop to expose chipper disc and blades. (fig 5.1)

5.1.6.4 Carefully rotate chipper disc to check tightness of disc blade bolts and condition of blades.

5.1.6.5 Remove any loose wood material.

5.1.6.6 If any bolts are loose, refer to maintenance section 6 for further action.

5.1.6.7 Replace chipper disc cover and tighten bolt(s) securely.

5.1.7 Remove any loose material and dust from radiator and engine bay.

5.1.8 Replace engine cover.

5.1.9 Check discharge chute is in desired position and all clamps are tight. (see Section 4.3)

5.1.10 Check infeed chute (fig 4.2) is locked in position with catch.

5.1.11 Check work area and erect signs and cone off discharge area if necessary.

5.1.12 Check **ALL** safety procedures have been followed.

⚠ CAUTION! Beware sharp edges of discs and unexpected movement.

⚠ CAUTION! Always work with the chipper level across a slope, preferably with the infeed direction slightly down the slope to minimise the risk of material falling back out.

Fig 5.2.1 Key and battery isolator

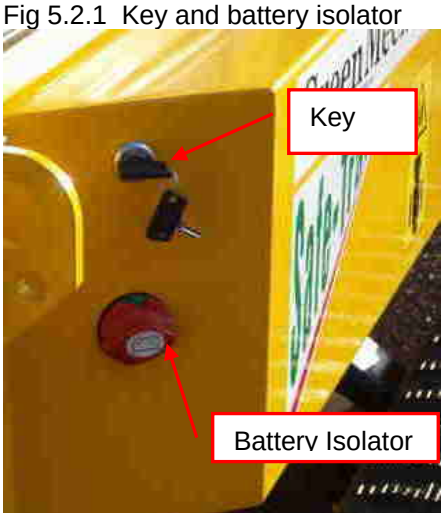
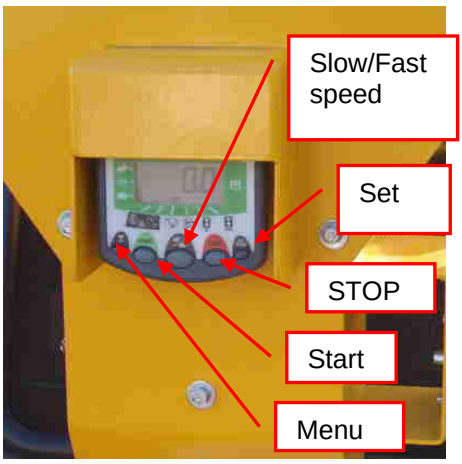


Fig 5.2.2 RDS control box



5.2 Starting Machine (RDS Control):

5.2.1 Check all other personnel are clear of machine.

5.2.2 Check that feed roller control bar is pushed to the FEED OUT or STOP position, to make the machine safe.

5.2.3 Check that battery isolator (fig 5.2.1) is ON.

5.2.4 Turn the ignition key to ON position.

5.2.5 When 0000 appears enter PIN code at RDS box (fig 5.2.2) as below.

Note: This feature may not be enabled. Please consult your dealer for instructions to enable or disable PIN, according to preference.

5.2.5 1 Press and hold left hand menu button until first digit of PIN is displayed.

5.2.5.2 Release button and repeat for second and remaining digits until code is entered.

5.2.5.3 When code is correct press SET.

5.2.6 Wait for the pre-heat icon to disappear.

5.2.7 Press and hold START button until engine is running.

5.2.8 Increase speed to operating speed by slow/fast to FAST (hare) switch or hand throttle lever if fitted.

Fig 5.3.1 Tracking Controls

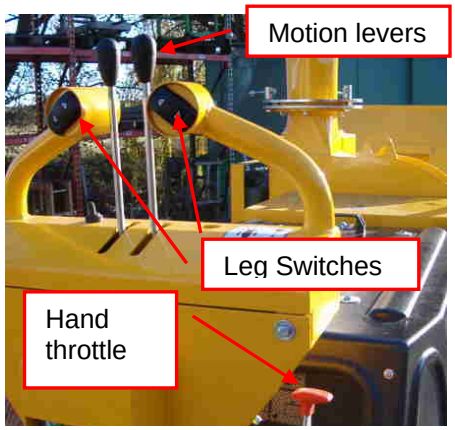


Fig 5.3.2 Track Legs

5.3 Moving the Machine

5.3.1 At tracking controls, (fig 5.3.1) select Track. (Centre switch down)
5.3.2 Extend legs as required, keeping body level. (fig 5.3.2)
5.3.3 Push both levers forwards together to start forward movement.
5.3.4 Open hand throttle to increase speed. Close to decrease speed.
5.3.5 Push left or right lever to steer.
5.3.6 At work site adjust legs to level the body and to position infeed chute at 600mm min. height.
5.3.7 Close hand throttle to slow engine.

Note: When extending or retracting legs it is advisable to track the machine.

⚠ CAUTION! When extending legs, do not force track against solid objects. This may dislodge track.

⚠ CAUTION! Avoid static turns on hard surfaces. This will rapidly wear the tracks

⚠ CAUTION! Point the discharge chute away from the driver. Over long journeys, engage the chipper drive to blow out build up of exhaust gas.

⚠ CAUTION! Do not drive directly up slopes exceeding 20 degrees. Slopes up to 35 degrees may be traversed with care.

Fig 5.4 RDS Control unit display.

Fig 5.6 Adjustable feed roller control

Control knob settings

Material	**Setting**
up to 150mm	Fully open (3 turns)
150 - 250mm	1/2 to 3/4 turn

5.4 Starting the Chipper

5.4.1 At tracking controls, select CHIP. (Centre switch up)
5.4.3 Press Hare on control unit (fig 5.2.2) or yellow button on infeed chute (fig 3.4.1) to increase speed to operating speed.
5.4.4 Push the reset knob to release the control bar for work. (Fig 3.4.1)

5.5 Stopping the Chipper

5.5.1 Push the control bar to STOP position.
5.5.2 Set hand throttle lever to Idle.
5.5.3 Press SLOW (tortoise) on control unit and allow chipper disc to slow down.
5.5.4 Press STOP to stop the engine (fig 5.2.2).
5.5.5 Switch start key to OFF to stop the engine.
Note: Use of start key to OFF will require re-entry of PIN code, if enabled.
5.5.6 Always wait for chipper disc to stop.

5.6 Adjustable Speed Feed Roller Control

When chipping wood sizes larger than 150mm diameter it is necessary to reduce the feed roller speed to suit the material being chipped. The control knob can be carefully accessed from inside the battery cover.
5.6.1 Turn the valve control knob (fig 5.6) clockwise until valve is closed.
5.6.2 Turn the knob anticlockwise to the recommended setting in the table.
5.6.3 Close the cover and secure.

Fig 5.8 Transport Position

5.7 Operating Hints

5.7.1 Check chip/track switch is set to CHIP.

5.7.2 Check disc speed on control unit is 1470rev/min minimum or more (fig 5.4).

NOTE: The “No Stress” system will only allow FEED IN (Forwards) operation of the feed rollers when the machine is running at FULL operating speed.

5.7.4 Select IDLE to reduce speed from RUN to IDLE whilst further material is collected for chipping.

5.7.5 Take care when feeding wood into the machine to allow for awkward shapes to “KICK” when contacting the feed rollers.

5.7.6 Position the end of larger sections of wood inside the infeed chute and then support the other end whilst pushing the wood into the feed rollers.

⚠ CAUTION! Do not release discharge chute clamps when chipping is in progress. Elevation of the discharge is altered by means of the adjustable flap (fig. 4.3).

⚠ CAUTION! Keep working area around the machine clear at all times and check only authorised personnel are present.

5.8 On Completion Of Work

5.8.1 Check that engine has stopped and chipper disc is stationary.

5.8.2 Remove surplus material from infeed chute and machine surfaces.

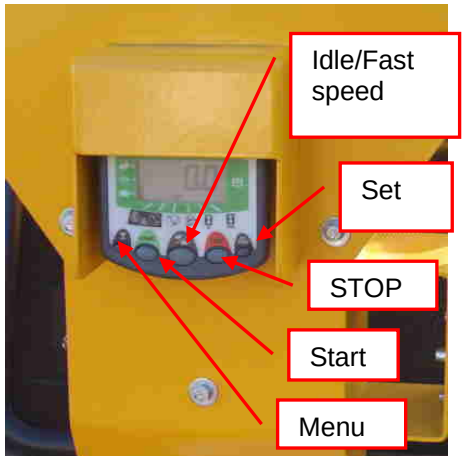
5.8.3 Fold infeed chute to transport position using control bar, secure with lock and fit locking pin.

5.8.4 Set discharge flap into lowest position and tighten clamp.

5.8.5 Release clamps, turn discharge chute to straight position away from tracking controls, tighten clamps.

⚠ CAUTION! Do not leave machine parked directly up or down slope.

Fig 5.9 RDS control box



5.9 RDS Control Display

Control displays chipper speed (default), feed roller status, daily hours, total hours and faults. (Fig 5.9)

5.9.1 Press left hand menu button to scroll through display menu indicated by black triangle over symbol.

5.9.2 Reset daily hours. Scroll to daily hours (pos. 5) Press and hold Set/Reset.

5.9.3 Fault signals. Refer to Maintenance section 6.23.

⚠ CAUTION! Bleep sounds. Ten regular bleeps indicates engine service due. Bleeps at other times may indicate a fault. If in doubt, consult dealer.

⚠ CAUTION! Do not hang other keys with ignition key. Weight can stop engine.

ROUTINE MAINTENANCE SCHEDULE

CAUTION! Always remove key and check for rotation before carrying out any maintenance.

All covers except engine cover are secured closed with bolts requiring a spanner.

Action	Section	Page
DAILY		
Check engine oil level and coolant (ref: engine manual)	6.2 – 6.3	6-6
Check hydraulic oil level	6.4	6-6
Check fuel level	6.5	6-7
Check all drive belts	6.6	6-7
Check condition of disc blades and retaining bolts	6.7	6-8
Clean radiator screen and around radiator	6.8	6-9
Check feed roller control bar function	3.4	3-2
Check condition of tracks	Refer to track manual	
Check track gear, nuts, rollers and bearings	Refer to track manual	
FIRST 50 HOURS		
Check battery levels	6.12	6-10
Check drive belt tensions	6.14	6-10, 6-11
Check hydraulic connections	6.16	6-12
Check all mountings	6.17	6-12
Check feed roller control bar function	3.4	3-2
Service engine	Refer to engine manual	
WEEKLY in addition to Daily actions		
Grease all bearings, pivots and slide pads	6.1, 6.13	6-5, 6-10
Blow out radiator core with air line	6.8	6-6
Steam clean machine	6.9	6-9
Clean air cleaner	6.10	6-9
Check electrical connections	6.11	6-9
Check battery levels	6.12	6-10
Check chipper and pump drive belt tensions	6.14, 6.15	6-10, 6-11
Check hydraulic connections	6.16	6-12
Check all mountings	6.17	6-12
Check feed roller control bar function	3.4	3-2
250 hours in addition to Daily and Weekly actions		
Check condition of bearings and pivots	6.1, 6.13	6-5, 6-10
Check all fluid levels	6.2, 6.3, 6.4	6-6
Service engine	Refer to engine manual	
Check track gear units, rollers and bearings	Refer to track manual	
Replace return filter element(s)	6.18, 6.19	6-13
1000 hours in addition to 250 hour actions		
Change hydraulic oil when replacing filter element	6.20	6-14

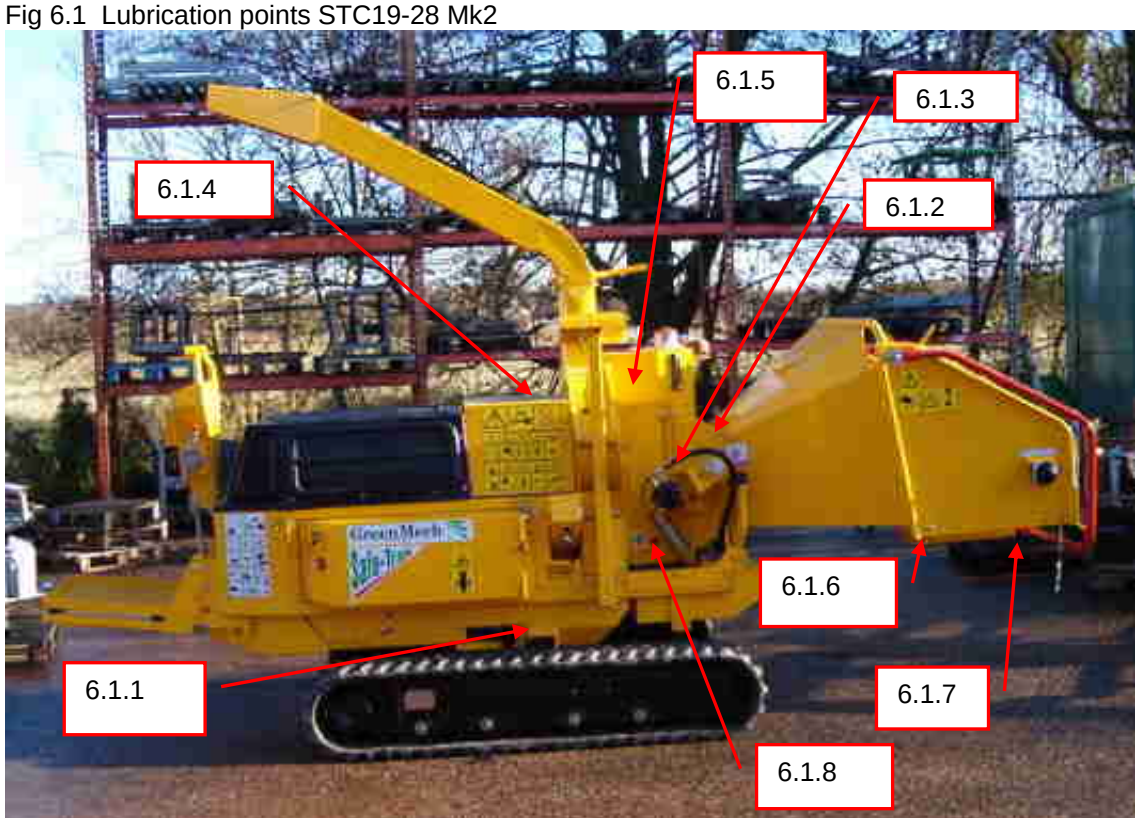
DIESEL ENGINE MAINTENANCE **REFER TO ENGINE MANUAL**

TRACK MAINTENANCE **REFER TO TRACK MANUAL**

Recommended lubricants	**Specification**
Hydraulic Oil	ISO 32
Grease	Complex grease EP2 (high temperature)
Engine	SAE 15W-40 APICD

6.1 Lubrication Points (see also 6.13)

Fig 6.1 Lubrication points STC19-28 Mk2



Grease except where stated

6.1.1	Track legs	2 nipples each leg
6.1.2	Top Feed roller pivot	1 nipple
6.1.3	Top Feed roller bearing	1 nipple
6.1.4	Chipper Disc front bearing	1 nipple
6.1.5	Chipper Disc rear bearing	1 nipple
6.1.6	Infeed chute hinges	Oil
6.1.7	Infeed roller mechanism	Clean and grease
6.1.8	Bottom Feed roller bearing	1 nipple

Note. Do not overgrease bearings as damage to seals may occur.
Note: Use high temperature grease on chipper disc bearings

Fig. 6.2 Engine dipstick

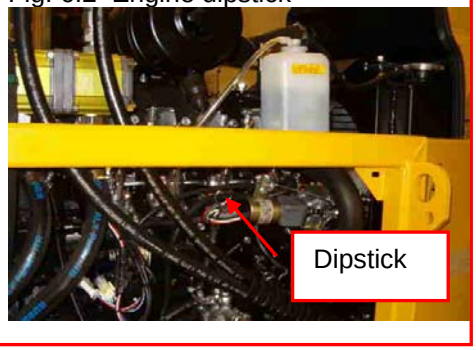


Fig.6.3 Coolant

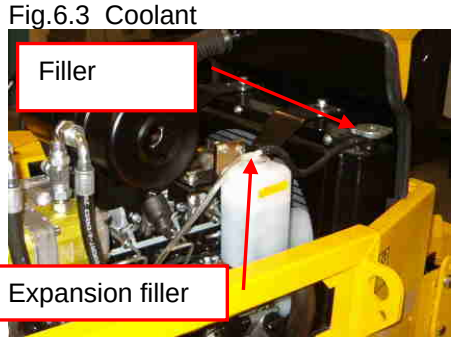


Fig 6.4. Hydraulic Filler/Filter

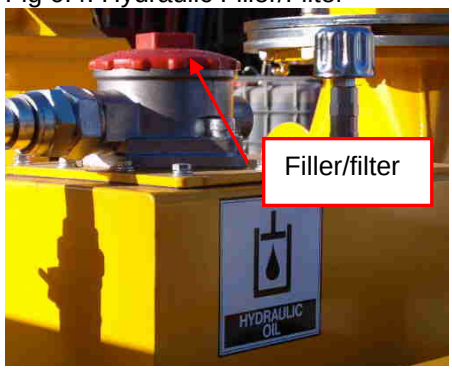


Fig 6.5 Fuel Filler

6.2 Engine Oil

6.2.1 Check daily (fig 6.2). Refer to engine manual to refill.

6.3 Coolant

6.3.1 Check daily, both radiator and overflow tank (fig 6.3). Refill as required. Check antifreeze.

⚠ CAUTION! Do not remove cap when engine is hot.

6.4 Hydraulic Oil

6.4.1 Check daily (fig 6.4). If below mark check for leaks and refill to correct level.

6.5 Fuel

6.5.1 Check daily (fig 6.5) before work and fill with diesel as required.

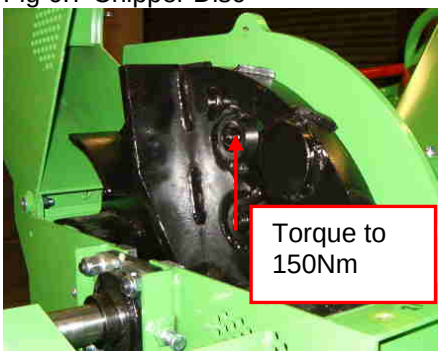
⚠ CAUTION! Use clean diesel fuel only. If in doubt, use a funnel with a filter.

⚠ CAUTION! Do not use any form of synthetic fuel.

6.6 Drive Belts

6.6.1 Check daily, before work, the condition of all drive belts and replace if worn. See section 6.14 and 6.15

Fig 6.7 Chipper Disc



6.7 Disc Blade Rotation and Replacement

The design of the blades permits relocation in at least three rotated positions before regrinding or replacement is required.

6.7.1 Check engine is switched off, and start key removed.

6.7.2 Raise engine cover, and check any rotation has stopped.

6.7.3 Remove the bolts retaining chipper disc cover (fig 5.1 and fig 6.7).

⚠ CAUTION! Take care. Blades are extremely sharp.

⚠ CAUTION! Beware sharp edges of discs and unexpected movement.

6.7.4 Using discharge chute handle as a lever, swing back cover on to stop to expose chipper disc and blades.

6.7.5 Current best practice is to 'lock' chipper disc with timber or similar in desired position when slackening or tightening blade bolts to 150NM.

6.7.6 Slacken disc blade retaining bolt, remove disc, clean mounting face and location.

6.7.7 Replace disc in a rotated position to present a sharp section to the shear bars.

6.7.8 Torque up bolt to 150NM (110lb.ft.)

6.7.9 Check condition and security of shear bars. Rotate or replace if required. Do not regrind.

⚠ CAUTION! Disc blades must only be sharpened by grinding the angled back face on a suitable grinder. Grinding of the front face will upset the gap, which is factory set. Do not sharpen with hand held equipment.

Note. If any of the Disc-Blades are worn below the flat annular section a complete set should be replaced. Inspect condition of nuts and bolts and replace if any signs of wear.

All blades must be sharpened in "sets" with equal amounts removed to maintain balance.

See section 6.23 for disc grinding details

Fig 6.8 Radiator

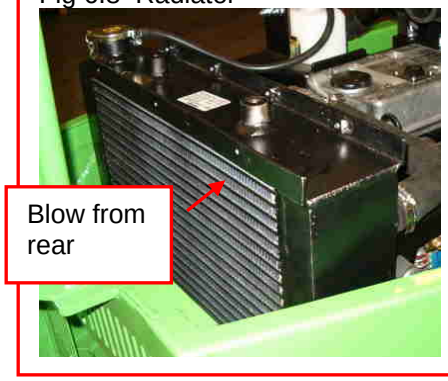


Fig 6.10 Air Cleaner

6.8 Radiator

Daily

6.8.1: Blow radiator core from front. (fig 6.8)

⚠ CAUTION! A build up of debris risks overheating of the engine and a risk of fire.

6.9 Steam Cleaning

50 hours

6.9.1 Check all covers are fitted and closed.

6.9.2 Steam clean machine surfaces.

6.9.3 Clean electrical components with a damp rag, spray with WD40 and then wipe with dry rag.

⚠ CAUTION! Do not steam clean directly on to electrical components, e.g. control boxes.

6.10 Air Cleaner

50 hours

6.10.1 Release wingnut or clip and remove cover (fig 6.10).

6.10.2 Release wingnut, slide out element and either blow out with air-line or gently tap on smooth ground to release debris. If badly contaminated replace element.

6.10.3 Replace and tighten wingnut finger-tight.

6.10.4 Replace cover.

6.11 Electrical connections

50 Hours

6.11.1 Check all wiring loom connections are secure.

⚠ CAUTION! Poor connections will affect engine security cut-outs and may prevent starting.

Fig 6.12 Battery

6.12 Battery (fig 6.12)
50 hours
6.12.1 Turn isolator (fig 5.2.1) to OFF
6.12.2 Check electrolyte level and top up if required
6.12.2 Turn isolator to ON.

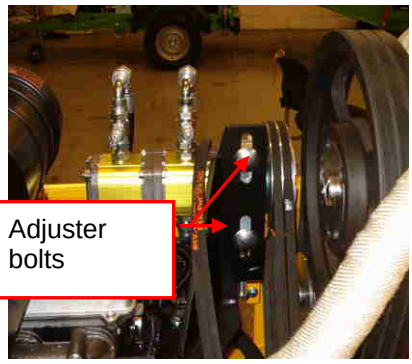
⚠ CAUTION! Gases are explosive. Electrolyte is corrosive. Avoid sparks and spillage.
6.12.3 Removal of battery
6.12.3.1 First disconnect negative (-) cable.
6.12.3.2 Disconnect positive (+) cable.
6.12.3.3 Remove clamp and carefully lift out battery.
6.12.3.4 Replace by connecting positive cable before negative.

6.13 Bearings and Pivots
50 hours
See section 6.1 for routine lubrication.
250 hours
6.13.1 Check rotating components for excessive movement and noise in operation.
6.13.2 Replace as required.

Fig 6.14 Belt tension release bar

6.14 Chipper Drive belt Tension
Tensioning is automatic and does not require any routine attention.
Belt Replacement
6.14.1 Screw special bar through side of machine (fig 6.14) to engage idler pulley bracket.
6.14.2 Continue to screw to push back bracket against spring force until the belts are sufficiently slack to remove.
6.14.3 Remove all belts and discard.
6.14.4 Fit new set of belts ensuring they lay snugly in grooves of all three pulleys.
6 14.5 Carefully unscrew bar and stow.
6.14.6 Check alignment and tension before starting chipper.

Fig 6.15.1 Track Pump Drive Belts



6.15 Track pump drive belts
50 hours

6.15.1 Check tension. If belts are slack, tighten using adjuster bolt. (fig 6.15.1)
Note: Spare belts may have been fitted over pump to reduce delay in emergency replacement.

6.16 Hydraulic connections
50 hours then 250 hours

6.16.1 With the aid of the circuit diagram to follow the hose routings, check all hoses and connections for leaks and damage.
6.16.2 Replace any worn or damaged hoses with the correct type and length.
6.16.3 Before removal, check routing and ensure replacement hose is fitted free of strains, twists or kinks.
6.16.4 To prevent spillage on hose removal close the tank valve (fig 4.1)

⚠ CAUTION! Ensure any residual pressure is released before dismantling.

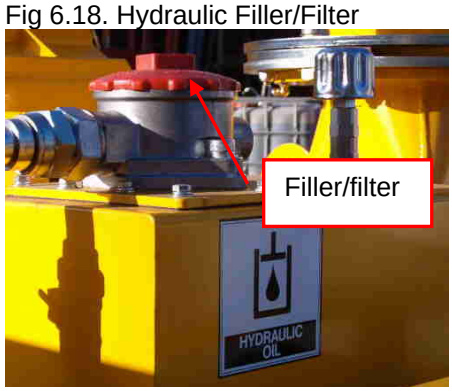
⚠ CAUTION! Ensure hoses are refitted free of twists and kinks.

⚠ CAUTION! Ensure that hydraulic tank valve (Fig 4.1) is set and locked to Open before starting machine. Failure to do so will damage components.

6.17 Mountings
50 hours then 250 hours

6.17.1 Check that all mounting bolts are tight.

Fig 6.18. Hydraulic Filler/Filter

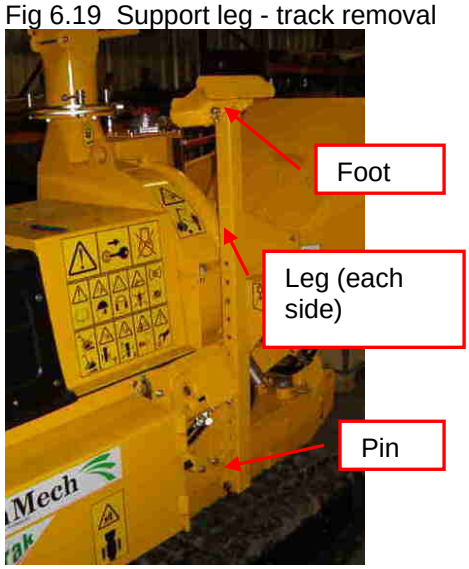


6.18 Hydraulic Return Filter (Fig 6.18)
250 hours

6.18.1 Check oil is cool.
6.18.2 Unscrew the filter cover (there is a spring under the cover) and carefully lift out the element, it may require gentle prising out, discard safely (see section 8).
6.18.3 Fit a new filter element to the correct specification and replace the cover and spring.

⚠ CAUTION! Do not overtighten.

Fig 6.19 Support leg - track removal



6.19 Track removal

A support leg (fig 6.19) enables individual track assemblies to be removed for servicing.

6.19.1 Extend both track legs.

6.19.2 Remove foot from parked position and fit to base of support leg.

6.19.3 Remove pin and reposition leg on side to be removed, with foot on firm ground.

6.19.4 Carefully retract track leg until clear of ground to remove.

6.19.5 Refer to track manual for servicing.

6.20 Hydraulic Oil change 1000 hours

6.20.1 Remove hydraulic oil with suction pump at filler, or via drain plug on underside of tank and replace with new oil of correct specification.

6.20.2 Replace suction filter.

6.20.3 Dispose of waste oil according to local authority environmental procedures.

6.21 Fuses and No Stress system

There are two fuses.

6.21.1 A 40 amp in-line fuse protects the engine pre-heat and start circuit.

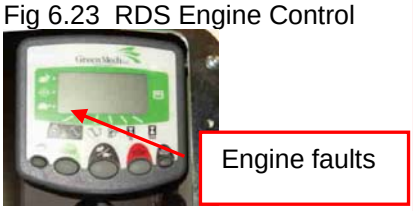
6.21.2 A 20 amp fuse protects the No Stress system.

Note The engine operating speeds for the No Stress system are factory set for particular machine builds and must not be readjusted.

6.22 Fault finding

This machine is fitted with an RDS controller which can display various engine and machine faults:

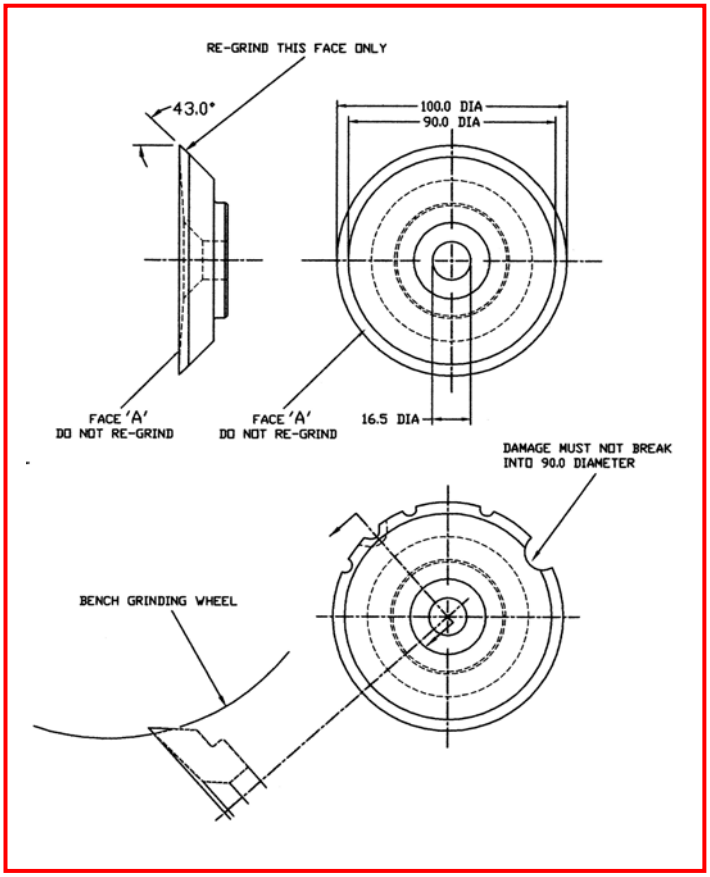
Fig 6.23 RDS Engine Control



6.22.1 Engine faults.
Black arrow at position 1: read-out COOL, OIL, or ALT
Check relevant problem (e.g. coolant) and rectify as below.
6.22.2 To reset read-out, press and hold SET/RESET for 2 seconds. Press STOP for 2 seconds. Restart engine.
6.22.3 If fault still present, consult dealer.

Fault	Check	Action	Page
Engine will not start	Battery	Recharge	6-10
	Fuel	Fill tank	6-7
	Oil pressure	Check Oil level	6-6
	Thermal cut-out	Check operation	3-2
	Fuses	Check	6-14
Engine not at correct speed	Clutch cut-out	Check operation	5-3
Engine stops. Control display 'COOL'	Radiator	Check level and clean core	6-9
Engine stops. Control display 'OIL'	Oil level	Check and top up oil	6-6
Engine stops. Control display 'ALT'	Alternator belt	Check and adjust tension. See engine manual	
No stress light not on	Fuses, cut-outs	Check operation	6-14
Blade disc will not start	Clutch	Adjust (STC220 only)	6-11
	Drive belts	Replace	6-10
Feed rollers do not turn	Chip/Track switch	Select 'Chip'	5-3
	Control bar	Reset and check	3-2
	Hydraulics	Check solenoid valve	
Feed will not reverse	Control bar	Reset and check	3-2
	Hydraulic valve	Check operation	
Discharge does not flow	Discharge chute	Check for blockage	5-1
	Blade disc	Check for blockage	5-1
Wood unevenly chipped	Blade condition	Replace with sharp blades	6-8
Machine unsteady	Track legs	Set to correct position	5-2
Unusual noise(s)	Blade disc and bearings	Check and replace	6-8
Track legs do not extend	Chip/Track switch	Select 'Track'	5-2
Tracks do not drive	Chip/Track switch	Select 'Track'	5-2
	Pump drive belts	Check and adjust	6-12
	Hydraulics	Check operation	

6.23 Chipper Disc Re-grinding



6.23.1 Examine set of chipper discs for damage. If front face 'A' is worn the disc must be scrapped. If chips have broken off the cutting edge they can be re-dressed provided that they do not go inside the 90mm diameter.

6.23.2 Always regrind the worst damaged disc first, as this will establish the target weight for the other discs.

6.23.3 If large chips exist over less than 30% of the circumference the disc may be re-ground provided the large damaged area is not used for chipping.

6.23.4 Chips may be repaired by grinding a cutting edge around the damaged area using a bench grinder.

6.23.5 With chipper disc mounted on a mandrel re-grind remainder of cutting edge at 43º as shown.

6.23.6 Re-grind in increments of approximately 0.01mm (0.004") until sharp edge is restored.

6.23.7 Re-grinding must not go below 90mm diameter or the disc must be scrapped.

6.23.8 After re-grinding the weight of discs within a set must not vary by more than +/- 1gm (0.03oz). The weight of each disc must not be less than 560gm (20oz).

7.1 Storage

7.1.1 Thoroughly clean machine and note any replacement parts required.
7.1.2 Carry out 250 hour service if not already done. Refer to Section 6
7.1.3 Fit replacement parts when available.
7.1.4 Remove battery Refer to 6.10
7.1.5 Drain fuel
7.1.6 Fold up infeed chute. Note: STC16-23 infeed chute can be removed and stowed on top of machine to reduce length.

7.2 Removal from Storage

7.2.1 Charge battery and refit Refer to 6.10
7.2.4 Carry out machine preparation as necessary Refer to Section 4

When the machine is finally scrapped, the following items should be disposed of only at authorised waste disposal facilities.

Engine oil. Hydraulic oil. Antifreeze. Battery. Tracks.

If in doubt, consult the Local Authority environmental department.

Major non-ferrous items such as engine cover and hydraulic hoses may also be disposed of separately.

Safety Guides and Checklist as Transcribed from and Advised by Arborculture & Forestry Advisory Group and Issued as Leaflet 604 by HSE, issued 04/03

INTRODUCTION

This leaflet covers the safe working practices to be followed when operating a wood chipper.

It does not cover a combination of machines working within each other's risk zones (see AFAG leaflet 605 ***Mechanical roadside processing*)**

You can use this leaflet, along with the manufacturer's handbook, as part of the risk assessment process to help identify the controls to put in place when using a wood chipper.

You must also assess the effect of the site and the weather as well as following this guidance

All operators must have had appropriate training in how to operate the machine and how to carry out the tasks require (see AFAG leaflet 805 ***Training and certification)***

PERSONAL PROTECTIVE EQUIPMENT (PPE)

1. Use the following PPE

- A Safety Helmet, complying with EN 397, if identified as required in the risk assessment.
- Eye Protection (a mesh visor complying with EN1731 or safety glasses to EN166)
- Hearing protection (complying with EN352) where noise level exceeds 85 dB(A) (see HSE pocket card INDG363 ***Protect your hearing or lose it!)***
- Gloves.
- Safety Boots with good grip and ankle support (complying with EN345-1)
- Non-Snag Outer Clothing appropriate to prevailing weather conditions. High-visibility clothing (complying with EN471) should be worn when the risk assessment identifies that it is needed.

2. Each person should carry a personal first-aid kit including a large wound dressing (see HSE leaflet INDG214 ***first aid at work; Your questions answered).***

3. Hand cleaning material such as waterless skin cleanser or soap, water and paper towel should be readily available.

THE MACHINE

4. Before working with a machine, check it has been properly converted from any transport mode.

5. Ensure guards for dangerous parts (e.g. belts, pulleys, shafts etc) are secure and undamaged.

6. Ensure protective devices, such as the infeed control bar (incorporating the stopping device), are working correctly (see HSE leaflet AI S 38 ***Power-fed mobile wood chippers: Operator protection at infeed chutes).***

7. Ensure any lock for the chipping components has been disengaged;

THE MACHINE

8. Ensure the infeed hopper is clear of any materials.

9. Noise warning signs are in place.

10. For machines driven by a power take-off (PTO) shaft, before starting ensure:

- The PTO shaft is fitted with a suitable guard complying with EN1152, that encloses the shaft along its full length from tractor to machine.

- The guard is correctly fitted and in effective working order (see AS24(rev) ***Power take-offs and power take-off drive shafts);***

- The PTO speed is suitable for the machine.

SELECTING THE WORK AREA

11. Select as firm a surface as possible and stabilise the machine

12. Ensure ventilation is adequate and any exhaust fumes are vented into open air if working in an enclosed space.

13. Where appropriate, if the chipper is detached from the tow vehicle, apply the handbrake and, if necessary, chock the wheels.

14. On all reasonably foreseeable approaches to the worksite, erect warning and prohibition signs conforming to the Health and Safety (Safety Signs and Signals) Regulations 1996, indicating a hazardous worksite and that unauthorised access is prohibited. In areas of very high public access, a risk assessment may indicate that additional controls (e.g. barrier tape, barriers, extra manning) are required.

15. Ensure all operations near to highways are adequately signed with the appropriate notices as specified in the DTLR Code of Practice ***Safety at street works and road works (***available from The Stationary Office ISBN 0 11 551958 -0)

16. Ensure that the discharge chute is positioned to prevent chips being blown onto the highway during roadside operations, or in any direction where they can affect colleagues or members of the public.

17. Position the chipper so that operators do not have to stand on embankments/slopes when feeding material into the machine

EMERGENCY PROCEDURES

18. Ensure a designated and responsible person knows the daily work programme and agree with them a suitable emergency contact procedure. Where reasonably practicable use a mobile phone or radio and pre-arrange call-in system.

19. Ensure the operators can provide the emergency services with enough detail for them to be found in the event of an accident, e.g. the grid reference, the distance from the main road, the type of access (suitable for car/four-wheel drive/emergency service vehicles). In urban areas street names are essential. Know the location details before they are needed in an emergency. (Also see AFAG leaflet 802 ***Emergency planning)***

OPERATION

20. Make sure the cuffs of gloves are close fitting or tucked into you're sleeves to stop them being caught on material as it is fed into the chipper.

21. Set the engine speed to obtain optimum performance.

22. Check that material to be chipped is free from stones, metal and foreign objects.

23. Stand to one side of the infeed rollers to avoid being hit by ejected material.

24. Let material go as soon as it is engaged in the infeed rollers or chipping components.

25. Use a push stick at least 1.5 metre long, for both short produce and for the last piece of produce to be chipped.

26. Do not put any part of your body (including hands or feet), into the infeed hopper while the machine is running.

27. Always follow the manufactures' instructions for dealing with blockages on the machine.

28. Keep the area of ground in front of the infeed hopper free from debris to prevent any tripping hazard.

29. Remove the engine start key when the machine is left unattended or when undertaking any maintenance.

FUELLING

30. Stop engine and, if necessary allow the machine to cool before refuelling.

31. Petrol vapour is invisible and can flow considerable distances from spillage or fuelling sites. Maintain a safe distance from any source of ignition at all times.

32. Store fuel to avoid vapour ignition from any source such as fires, people smoking or the wood chipper. Select a site shaded from direct sunlight and away from watercourses and drains.

33. Containers must be clearly labelled and have securely fitting caps. Plastic containers must be designed and approved for use with petrol or diesel fuel.

34. Replace the fuel cap securely.

35. Keep fuel from contacting the skin. If fuel gets into the eyes wash out with sterile water immediately and seek

Maintenance

36. Ensure the machine is carried out in accordance with the manufacture's handbook.

37. Check chipping components and knives each day for damage and wear.

38. Wear gloves when handling knives.

39. Before working on knives, confirm that the engine is switched off, the start key removed, and the chipping component is stationary.

40. Before opening any guard/cover or reaching into the infeed hopper or discharge chutes make sure that the engine is switched off, start key removed and dangerous parts have come to a stand still.

Maintenance

41. Knives must be changed or reversed if damaged or blunt. Knives must be scrapped when reduced to the minimum size specified by the manufacturer.

42. When new/sharpened knives are fitted, ensure that there is the recommended clearance between the knives and the anvil.

MOVING THE MACHINE

43. Stop the engine and remove the start/stop key.

44. Lock the chipping components.

45. Secure the infeed hopper and the chip discharge chute in the transport position.

46. Check the towing bracket, attach, then lift and secure the jockey wheel.

47. Connect the electrics and the safety chain/s to the towing vehicle.

48. Ensure that the load is secure and that people are in a safe position before moving off.

For further leaflets and reading see HSE web site:

www.hse.gov.uk

Further HSE Reading

Mechanical roadside processing AFAG605
Emergency planning AFAG802
Training and certification AFAG805
First aid at work:
Your questions answered INDG214
Managing health and safety
In forestry INDG294
Protect your hearing or lose it! INDG363

Further reading Continued

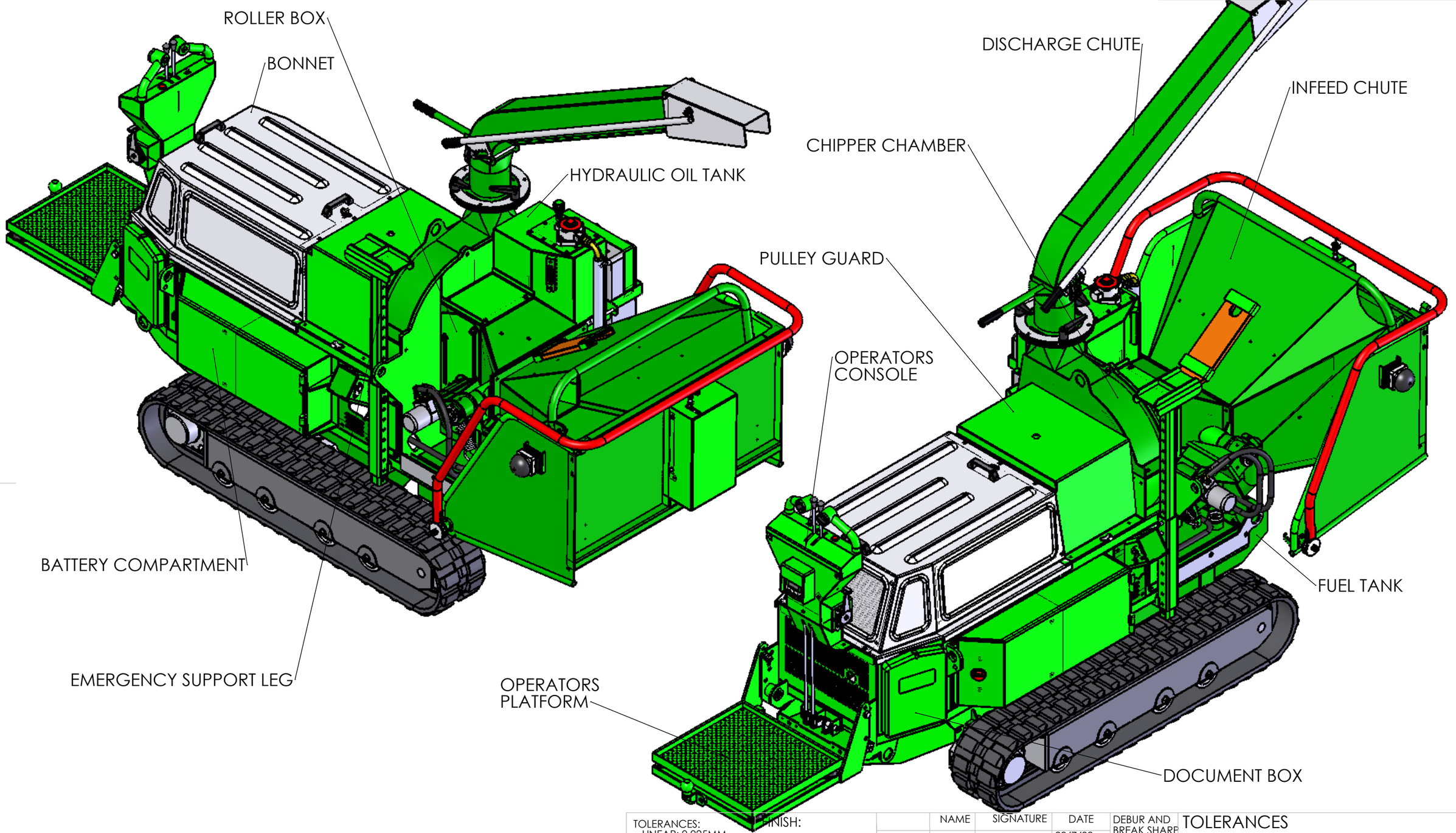
Power-fed mobile wood chippers:
Operator protection at infeed chute AIS38
Power take-offs and power take-off drive shafts AS24

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No.-



TOLERANCES: LINEAR: 0.025MM ANGULAR: 0.25°	FINISH:		NAME	SIGNATURE	DATE	DEBUR AND BREAK SHARP EDGES	TOLERANCES MACHINED PARTS +/- 0.025mm FABRICATED PARTS +/-1.0mm
		DRAWN	RVMR		28/7/09		
		CHK'D					
		APPV'D	BGG				

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:

MK2 ST1928
Safe track

WEIGHT:

DWG NO.

A3

SCALE:1:50

SHEET 1 OF 1

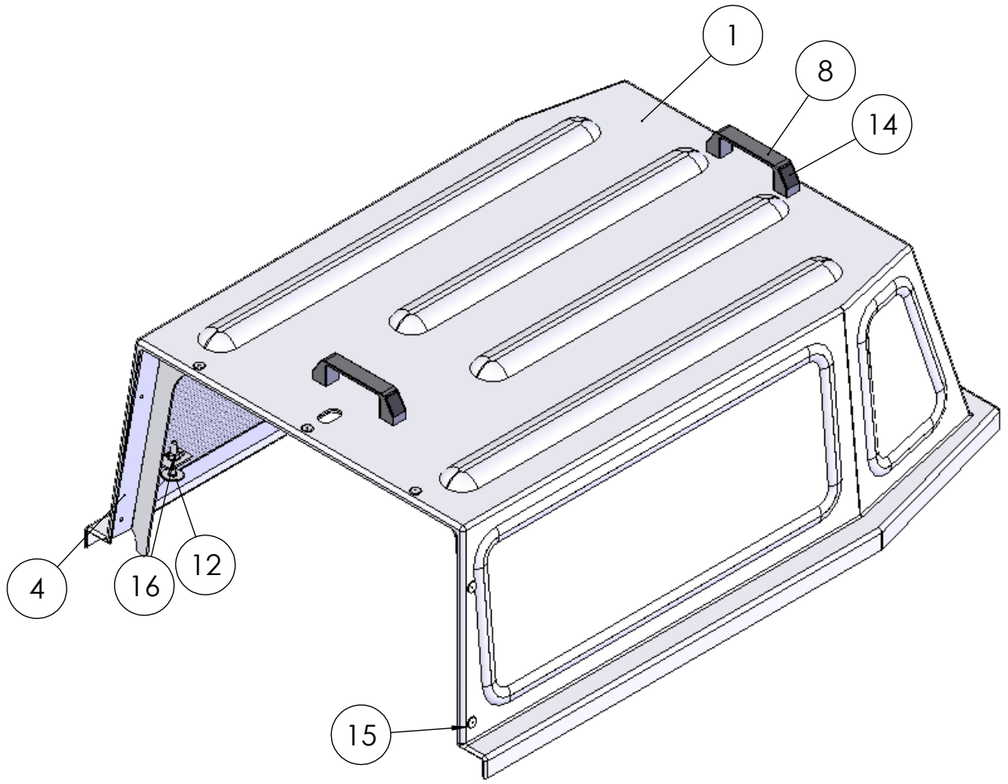
REV	MODIFICATION	DRN	APPD	DATE

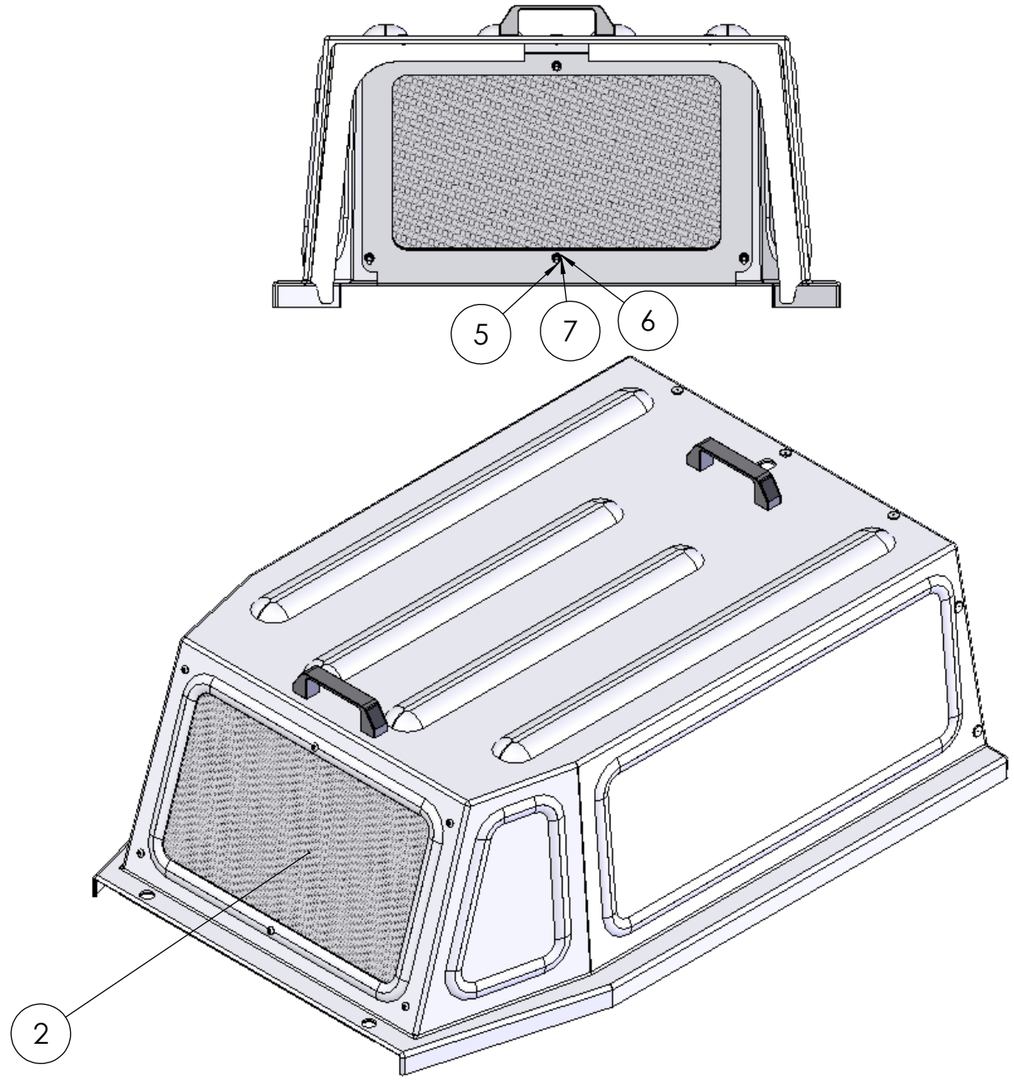
DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-





ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MK2 EC151011	Bonnet moulding	1
2	MK2 ST1928-1-40A	Front grill	1
4	MK2 ST1928-1-39A	Bonnet stiffener	1
5	90625BH	M6x25 Button head	6
6	90602	M6 flat washer	6
7	90601-Nyloc	M6 Nyloc nut	6
8	MK2 bonnet handle		2
9	90825	M8 x 25 bolt	4
10	90802	M8 flat washer	6
11	90801-Nyloc	M8 Nyloc nut	4
12	MK2 EC130-1-105	Micro switch button	1
14	MK2 bonnet handle infill		4
15	BIGHEAD RIVET	Monel pop rivet	7
16	90801P	M8 plain nut	2

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		15/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

WEIGHT:

TITLE:

Bonnet assembly

DWG NO. MK2 Safe Track bonnet

A3

SCALE:1:10

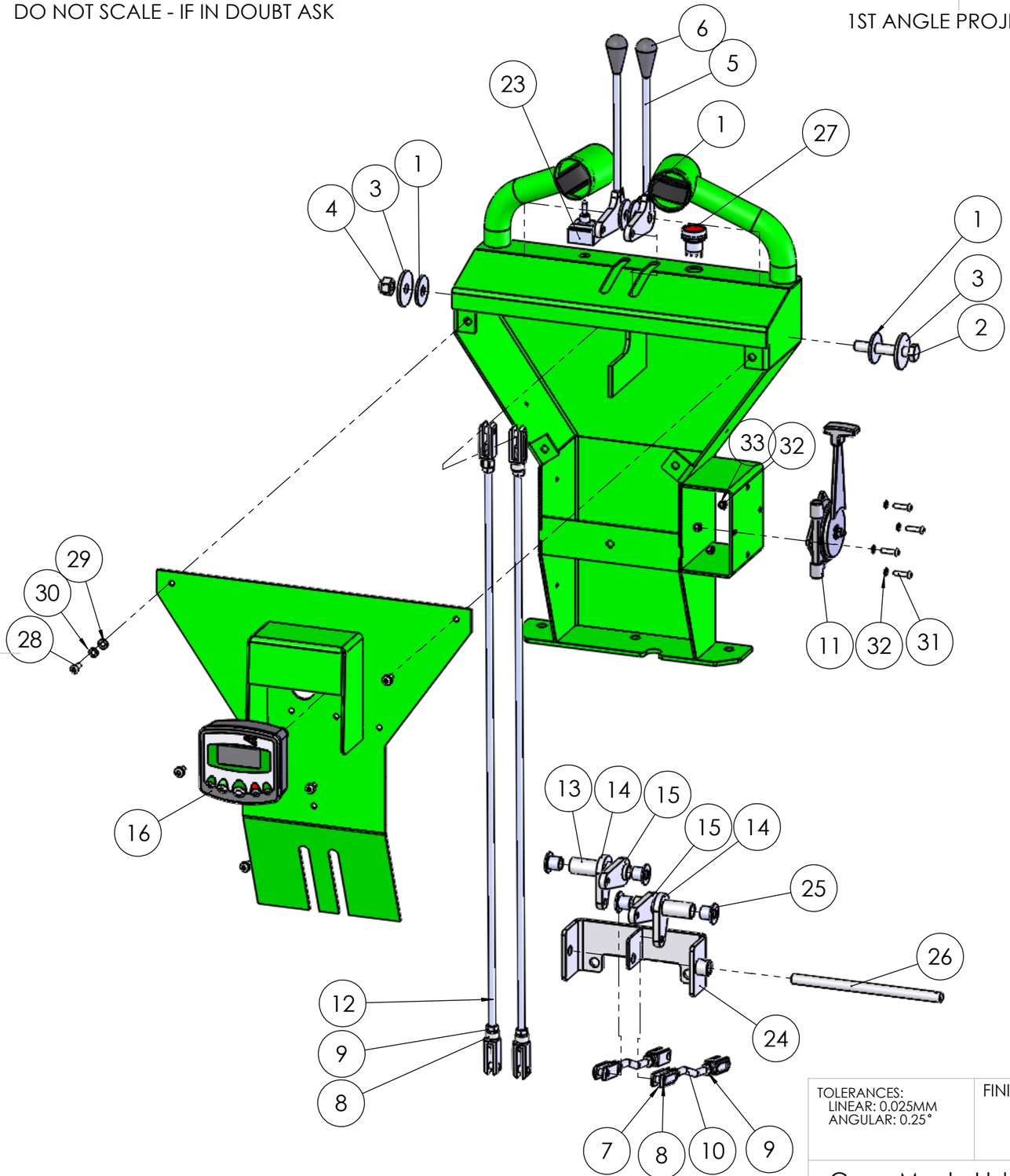
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



ITEM NO.	PART NUMBER	DESCRIPTION	Exploded/QTY.
1	M12 large nylon	38odx12.7id x 3.14thk	4
2	91275	M12 x 75 bolt	1
3	M12 X 45 WASHER		2
4	91201	M12 nyloc nut	1
5	MK2 ST1928-1-62	control lever	2
6	MK2 ST1928-1-127	Lever knob	2
7	LONG CLEVIS		8
8	LONG CLEVIS PIN		8
9	90801p	M8 plain nut	8
10	MK2 ST1928-1-125	VALVE ROD	2
11	ST20004	THROTTLE LEVER	1
12	MK2 ST1928-1-124.	link rod	2
13	MK2 ST1928-1-117	pivot tube seamless 19.3od x 12.5id x 76	2
14	MK2 ST1928-1-60	40MM BELL CRANK	2
15	MK2 ST1928-1-59	60MM BELL CRANK	2
16	MK2 RDS UNIT		1
17	MK2 RDS AV MOUNT		4
18	MK2 ST1928-1-79	LEVER SPACER	2
19	MK2 ST1928 Console		1
20	MK2 ST1928-1-176	control lever support brkt	1
21	Mk2 ST1928-1-235	Console lower body	1
22	Mk2 ST1928-1-237	throttle plate	1
23	MK2 ST1928 console switch	APEM1	1
24	MK2 ST1928-1-53	Centre link support brkt	1
25	Shouldered bush	16odx12.2id x 17	4
26	MK2 ST1928-1-122	Linkage pivot pin	1
27	Emergency tracking button	RS No 350 282	1
28	90616BH	M6 x 16mm B/H	5
29	90602	M6 flat washer	5
30	90603	M6 S/WASHER	5
31	90520BH	M5 x 20mm B/HEAD	4
32	90502	M5 WASHER	8
33	90501-NYLOC	M5 NYLOC NUT	4

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		22/6/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:
see BOM

TITLE:
operator console

WEIGHT:

DWG NO.
MK2 ST1928-1-113.X

A3

SCALE:1:6

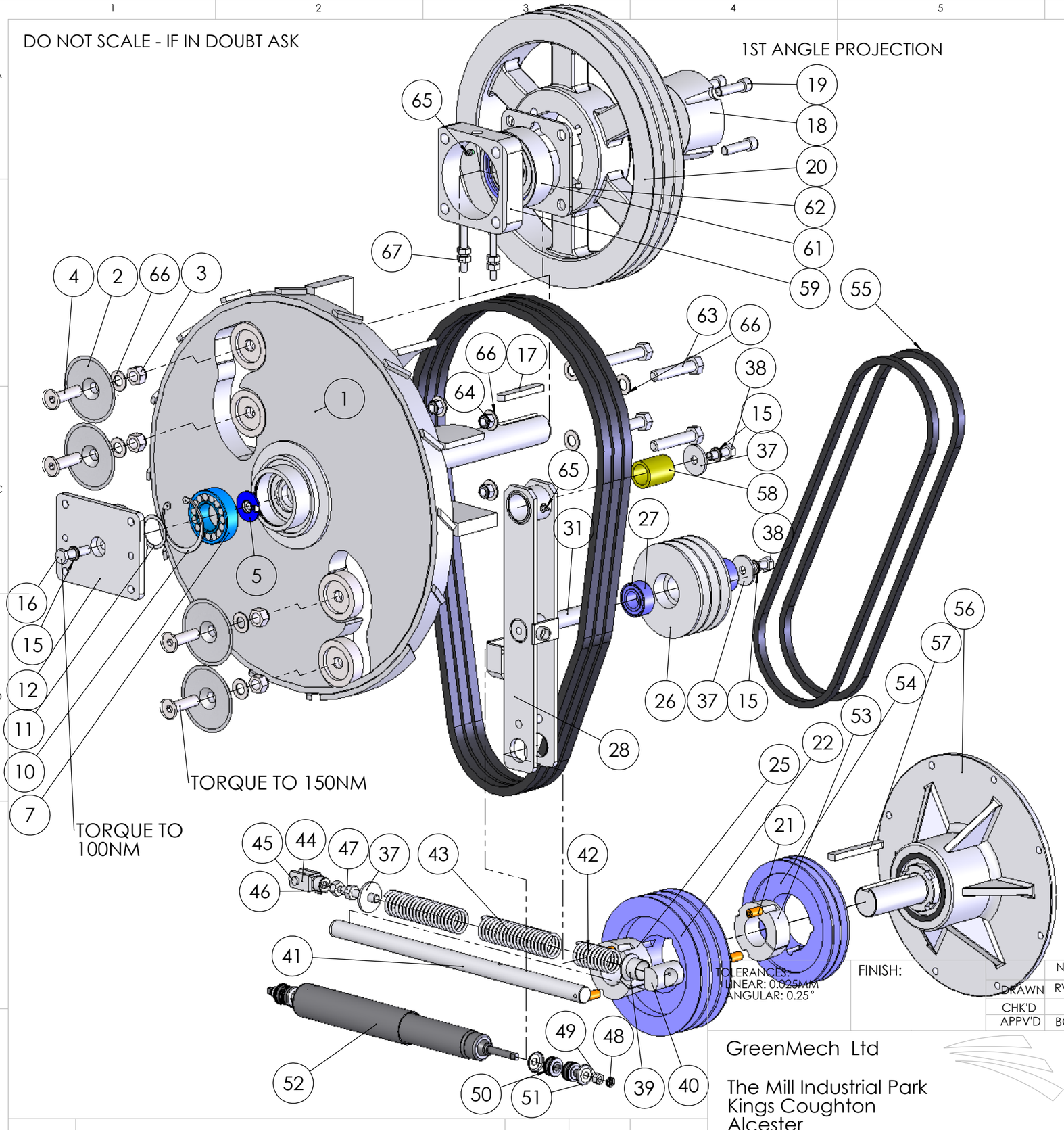
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	EC1928-2-50	FLYWHEEL	1
2	C202503	Chipping disc	4
3	91601	M16 nyloc nut	4
4	91650	M16 x 50 bolt	4
5	EC130-2-24	Shaft washer	1
7	Bearing	Flywheel centre bearing	1
10	80 INT C CLIP	80mm internal circlip	1
11	EC130-2-48	Spacer shim	1
12	MK2 EC130-2-22	Stub shaft housing	1
15	91203	M12 spring washer	3
16	91250	M12 x 50 bolt	1
17	14 X 9	Shaft key	1
18	3525-50	Taper lock bush	1
19	1-2BSW	1-2"W X 1/1-2"LONG	3
20	400 SPB	Taper lock pulley	1
21	1-2inch	1/2" grub screw	4
22	SPB 200	Pulley	1
24	SPB 1850	SPB drive belt	3
25	2517-45	Taper lock bush	1
26	MK2 EC1928-6-43	Idler pulley(STEEL)	1
27	3205 ZZ	Double row AC ball bearing	2
28	MK2 ST1928-2-28	Tensioner arm	1
31	MK2 EC1928-2-66	Idler shaft	1
34	MK2 ST1928-2-24	Damper mount	1
35	90602	M6 flat washer	1
37	M12 x 45 dia washer		3
38	91235	M12 x 35 bolt	2
39	EC1928-2-70	Yoke bush	1
40	EC1928-2-69	Tensioner eye	1
41	ST1928-2-84	Tensioner bar	1
42	Half spring	half coil spring	1
43	Full spring	Full coil spring	2
44	Clevis	M12 long clevis	1
45	Clevis pin	12mm clevis pin	1
46	Allthread	M12 x 70	1
47	91201-P	M12 plain nut	2
48	Starlock	nut lock	2
49	S-nut	Fine thread nut	2
50	Bush	Mounting bush	4
51	Cup	Mounting cup	4
52	R3256	Shock absorber	1
53	2012-45	Taper lock bush	1
54	180 spa pulley	Taper lock pulley	1
55	SPA 1400	V- belt	2
56	TC220216	Crank extension	1
57	14 X 9 X 104	Key	1
58	30 X 40 X 50	Oilite bush	1
59	MK2 SLC50 Block	Bearing housing block	1
60	91075AT	M10 x 75 all thread	2
61	MK2 SLC50	Spherial bearing	1
62	Mk2 SLC50 Clamp	Bearing clamp plate	1
63	91680	M16 x 80 bolt	4
64	91201	M12 nyloc	4
65	grease nipple - M6	straight	2
66	91602B	M16 flat washer	12
67	91001=P	M10 plain nut	4

REV	MODIFICATION	DRN	APPD	DATE

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		28/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:
see BOM

WEIGHT:

TITLE:
Chipper disc exploded

DWG NO. MK2 ST1928-2-50A

A3

SCALE:1:50

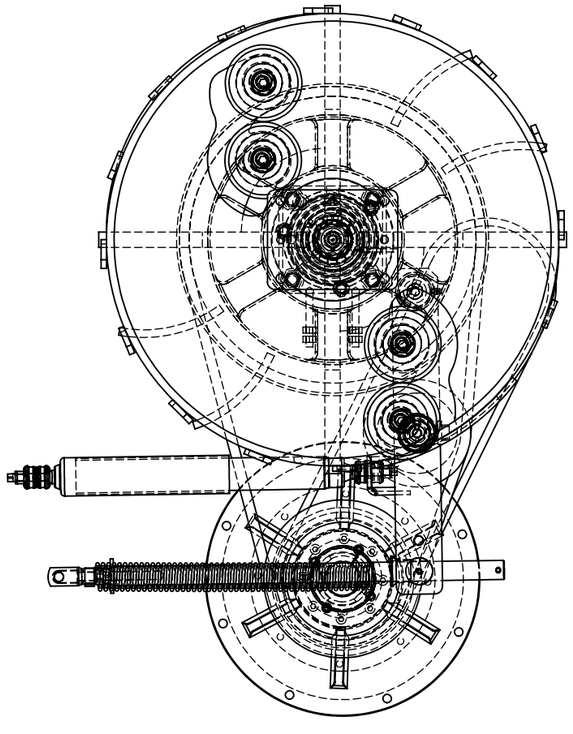
SHEET 1 OF 1

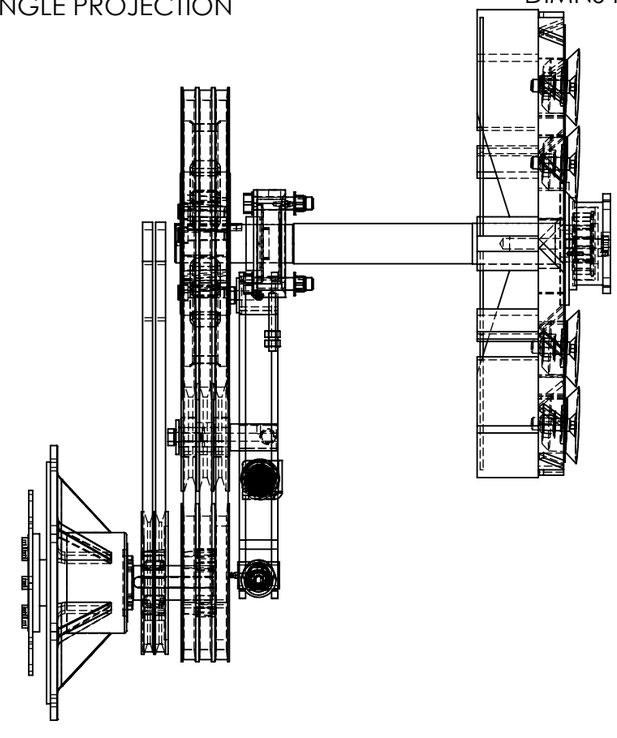
DO NOT SCALE - IF IN DOUBT ASK

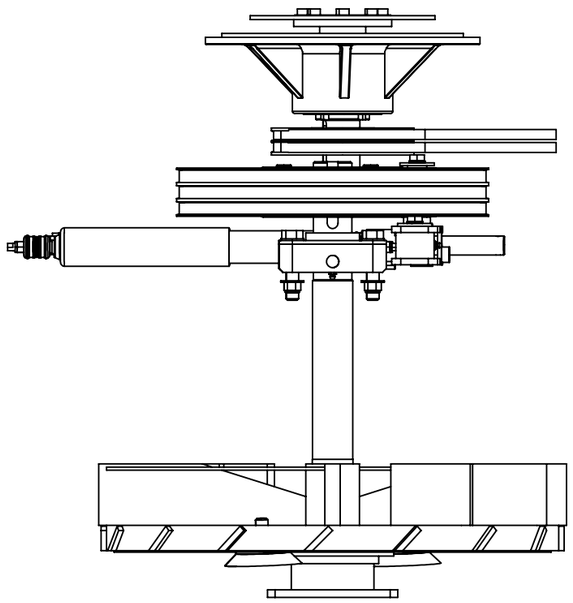
1ST ANGLE PROJECTION

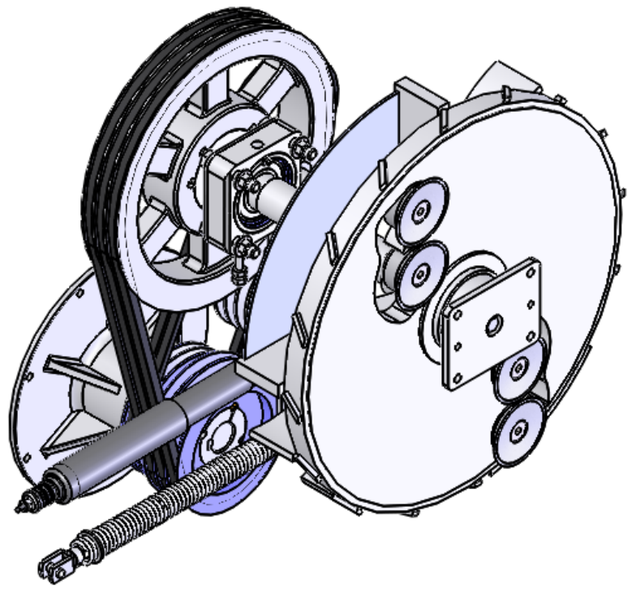
DIMNS IN MM

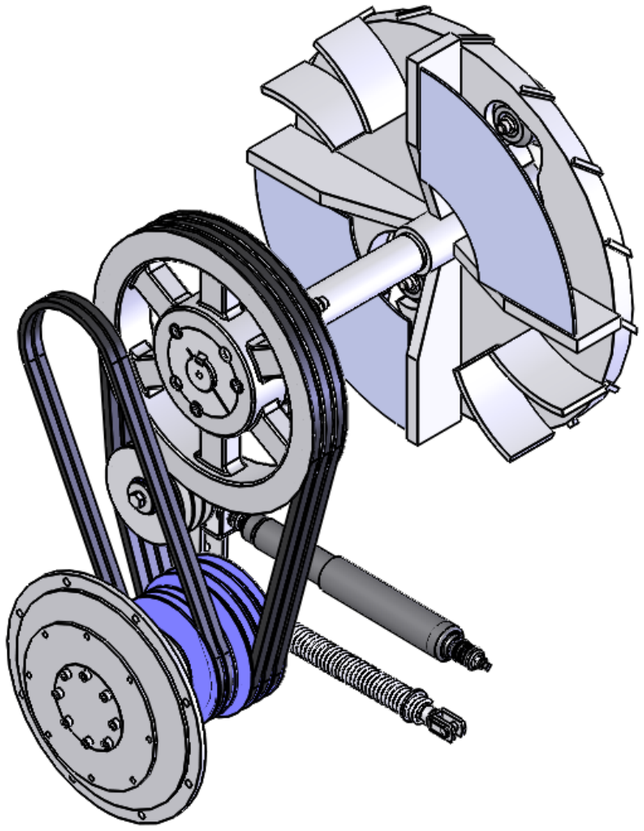
PROGRAM No:-











TOLERANCES: LINEAR: 0.025MM ANGULAR: 0.25°	FINISH:		NAME	SIGNATURE	DATE	DEBUR AND BREAK SHARP EDGES	TOLERANCES MACHINED PARTS +/- 0.025mm FABRICATED PARTS +/-1.0mm
		DRAWN	RVMR		29/7/09		
		CHK'D					
		APPV'D	BGG				

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE: Chipper disc

WEIGHT:

DWG NO. MK2 ST1928-2-50-A

A3

SCALE:1:20

SHEET 1 OF 1

REV	MODIFICATION	DRN	APPD	DATE

DO NOT SCALE - IF IN DOUBT ASK

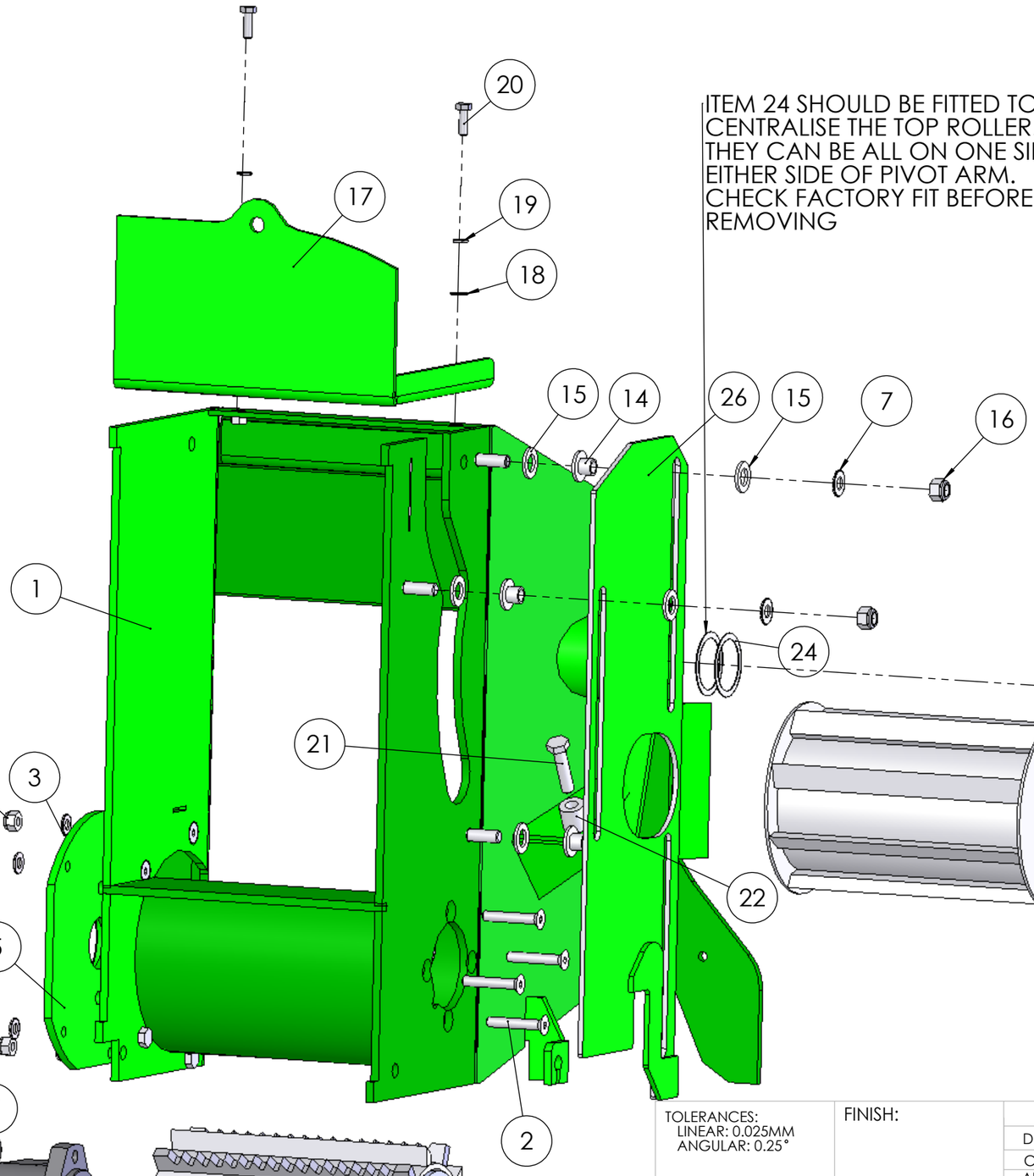
1ST ANGLE PROJECTION

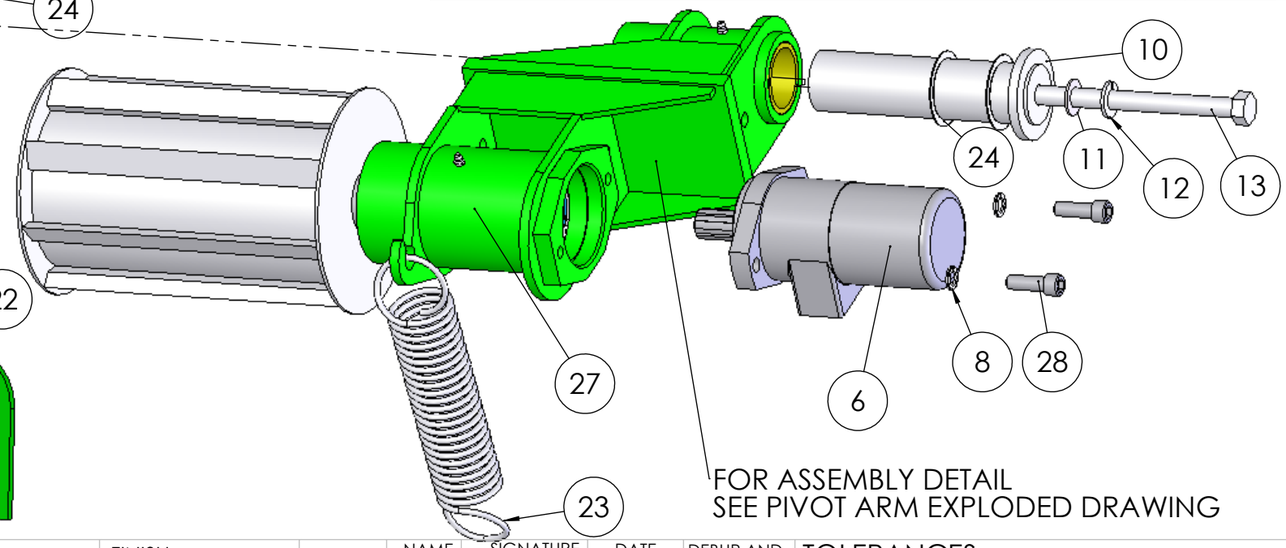
DIMNS IN MM

PROGRAM No:-

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MK2 ROLLERBOX		1
2	91060CS	M10 x 60 csk	4
3	91002	M10 B WASHER	8
4	91001	M10 NYLOC NUT	8
5	MK2 EC1928-3-11A	Bottom roller motor plt	1
6	MK2 C200207-1	Bottom roller motor	2
7	91202	M12 WASHER	5
8	91203	M12 S/WASHER	4
9	91240CH	M12 x 40 caphead	2
10	MK2 EC1928-3-38A	Pivot arm pin	1
11	91602B	M16 flat washer	1
12	91603	M16 spring washer	1
13	916240	M16 x 240 bolt	1
14	MK2 CM170-3-45	Slide bush	3
15	91202N	M12 nylon washer	6
16	91201	M12 NYLOC	3
17	MK2 EC1928-3-15	Top cover plate	1
18	90802	M8 flat washer	2
19	90803	M8 S/WASHER	2
20	90825	M8 x 25 bolt	2
21	91250	M12 x 50 bolt	1
22	MK2 CM220-3-48	Stop boss	1
23	MK2 C180119	PIVOT ARM SPRING	1
24	MK2 EC1928-3-67	1MM SHIM	4
25	MK2 BEARING HSG	Bottom roller assembly	1
26	MK2 EC 1928-3-36A	pivot arm guard	1
27	MK2 PIVOT ARM EXPLODED	PIVOT ARM ASSY	1
28	91235CH	M12 x 35 caphead	2

ITEM 24 SHOULD BE FITTED TO CENTRALISE THE TOP ROLLER. THEY CAN BE ALL ON ONE SIDE OR EITHER SIDE OF PIVOT ARM. CHECK FACTORY FIT BEFORE REMOVING





FOR ASSEMBLY DETAIL
SEE PIVOT ARM EXPLODED DRAWING

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		15/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:
Exploded

WEIGHT:

DWG NO.
MK2 ROLLER-ROLLERBOX

A3

SCALE:1:20

SHEET 1 OF 1

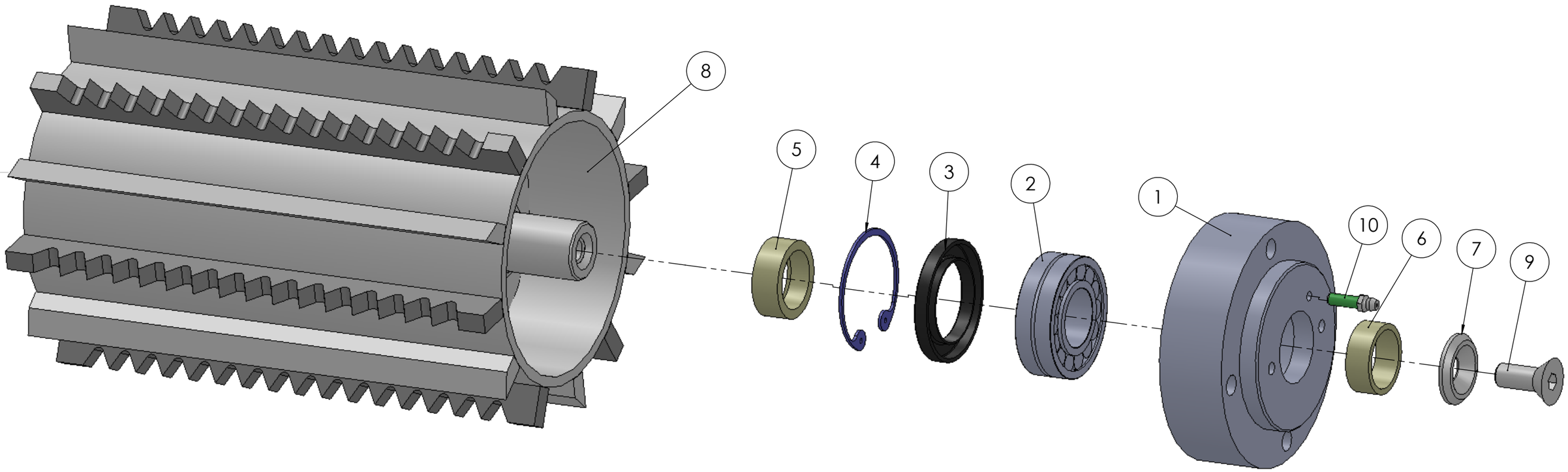
DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MK2 BOTTOM ROLLER BRG HSG	MT260 BEARING HSG	1
2	MK2 22206	DOUBLE ROW SPHERICAL ROLLER BRG	1
3	MK2 62407	ROTARY OIL SEAL	1
4	MK2 62 INT C CLIP	CIRCLIP	1
5	MK2 ST1928-3-82	CHAMPHERED SLEEVE	1
6	MK2 ST1928-3-83	PLAIN SLEEVE	1
7	MK2 ST1928-3-22	Bottom csk stepped washer	1
8	MK2 EC1928-3-20	BOTTOM ROLLER	1
9	91230CS	CLAMPING BOLT	1
10	grease nipple - M6 long	straight	1



TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		15/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:
Bottom roller assembly

WEIGHT:

DWG NO.
MK2 BEARING HSG

A3

SCALE:1:10

SHEET 1 OF 1

REV	MODIFICATION	DRN	APPD	DATE

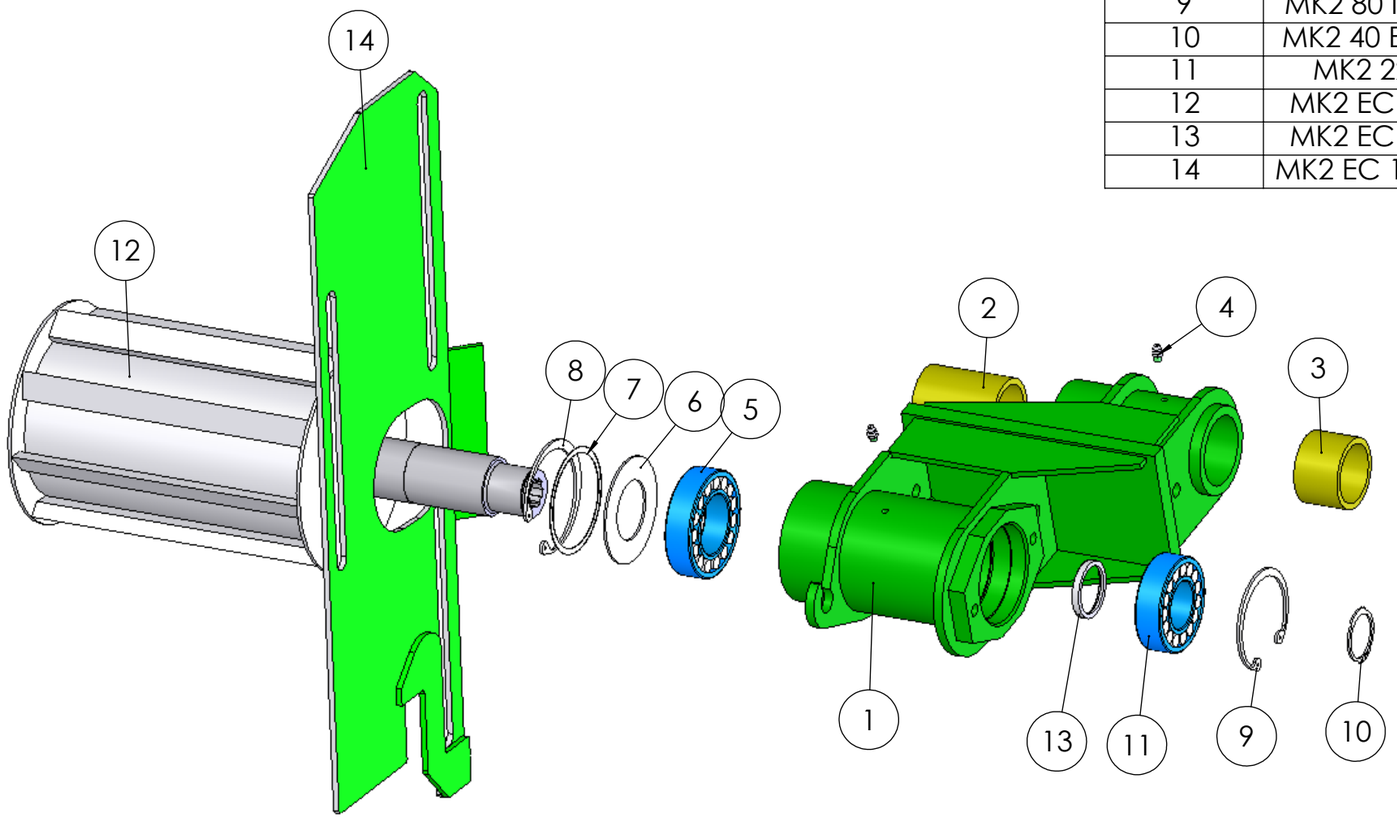
DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MK2 EC1928-3-28	Pivot arm	1
2	MK2 EC1928113	Oilite bush	1
3	MK2 C180114	Oilite bush	1
4	grease nipple - M6	straight	2
5	MK2 22210EW	Spherical roller bearing	1
6	MK2 EC1928-3-421	End plate	1
7	MK2 EC1928-3-422	Shim	1
8	MK2 90 INT C CLIP	Internal circlip	1
9	MK2 80 INT C CLIP	Internal circlip	1
10	MK2 40 EXT C CLIP	External circlip	1
11	MK2 22208EW	Spherical roller bearing	1
12	MK2 EC1928-3-24	Top roller	1
13	MK2 EC1928-3-80	Top roller spacer	1
14	MK2 EC 1928-3-36A	pivot arm guard	1



REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		15/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

WEIGHT:

TITLE:
Pivot arm assy exploded

DWG NO.
MK2 EC1928-3-28X

A3

SCALE:1:10

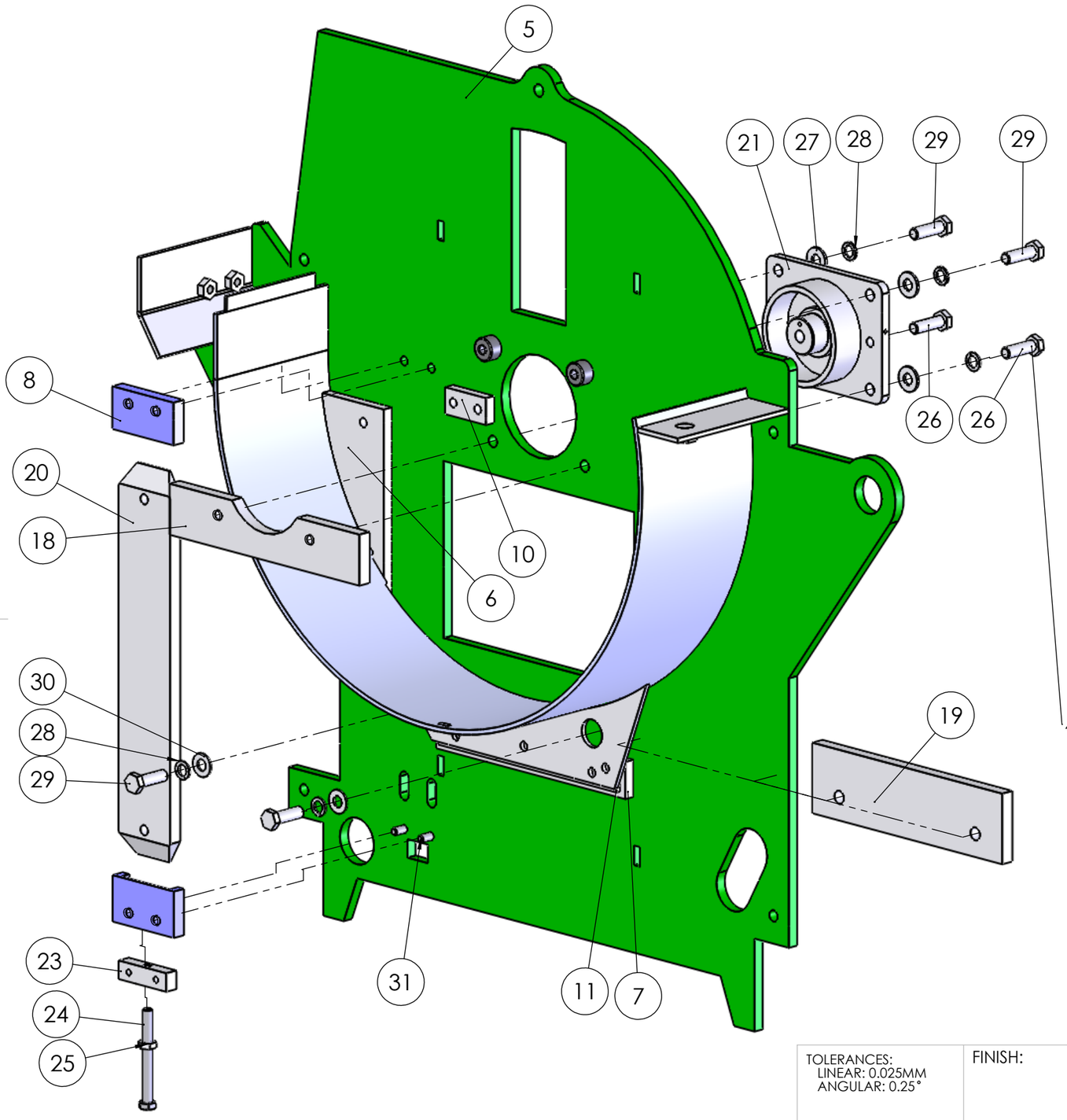
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
5	MK2 ST1928-2-17	Lower rear plate	1
6	MK2 EC1928-2-22	Shear bar support	1
7	MK2 EC1928-2-62	Shear bar support horizontal	1
8	MK2 CM170-2-32	Shear bar clamp	1
9	MK2 EC150024-7		4
10	MK2 EC1928-2-84	Top shear bar support	1
11	MK2 EC1928-2-41	Packer	1
18	EC1928-2-31	Top shear bar	1
19	EC1928-2-29	Lower shear bar	1
20	CM220-2-31	Vertical shear bar	1
21	MK2 EC130-2-22	Stub axle/flywheel bearing housing	1
22	CM170-2-33	Shear bar pocket	1
23	CM170-2-37	Shear bar lock	1
24	910100 set	M10 x 100 set	1
25	91001-T	M10 half nut	1
26	91240F	M12 x 40 fine thread	2
27	91202C	M12 flat washer	4
28	91203	M12 spring washer	6
29	91240	M12 x 40 bolt	4
30	91202	M12 flat washer	2
31	90830	M8 x 30 bolt	2
32	90803	M8 spring washer	2

4 No Torque to 100NM plus locktite

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		29/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:
see BOM

WEIGHT:

TITLE:
Chipper chamber shear bar detail

DWG NO. MK2 ST1928-2-2-SB

A3

SCALE:1:20

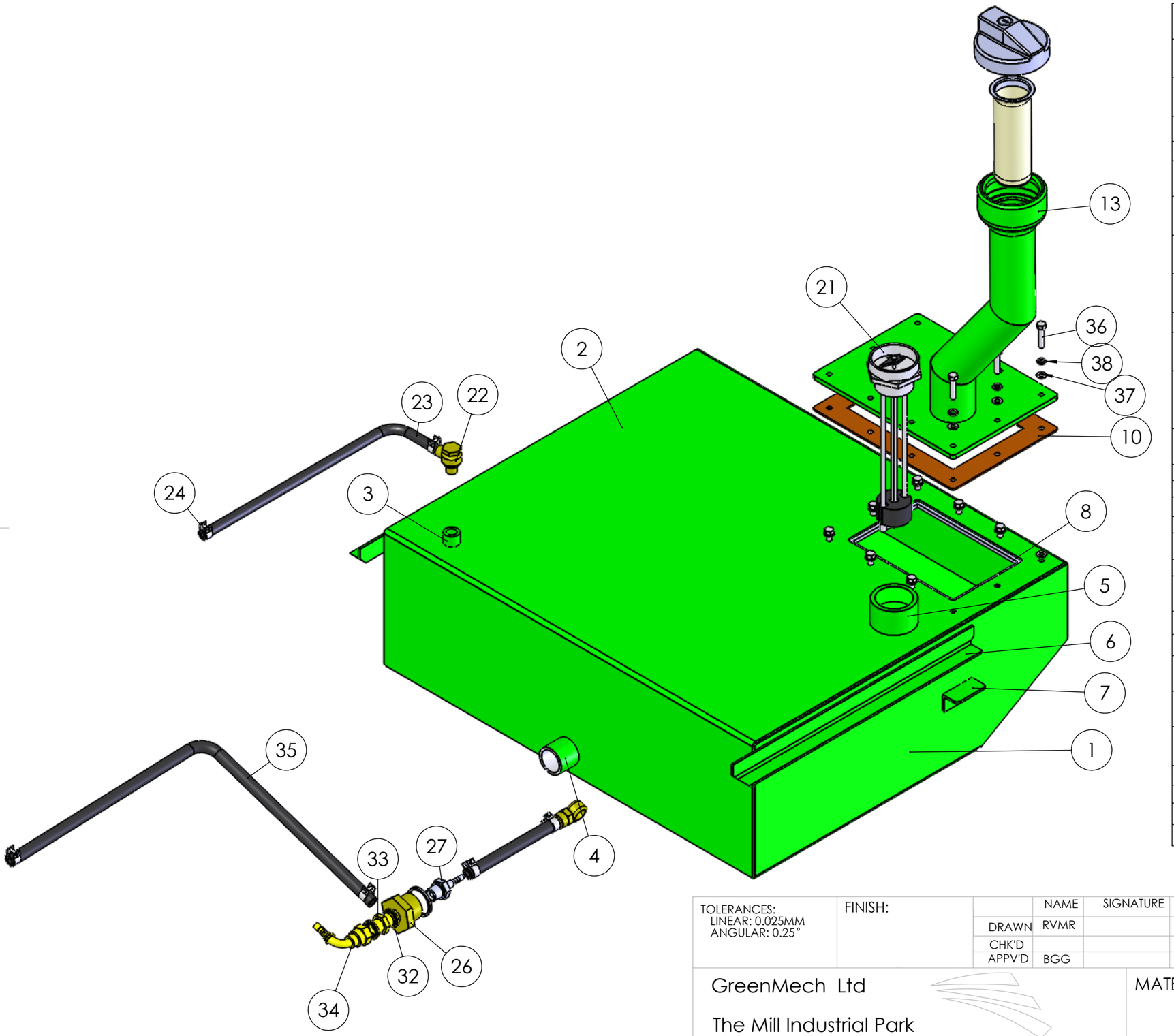
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MK2 ST1928-1-43	Fuel tank base panel	1
2	MK2 ST1928-1-43-1	Fuel tank top	1
3	MK2 1-4 socket	1/4" BSP	1
4	MK2 1-SOCKET	1" BSP	1
5	MK2 1.5 BSP SOCKET	Full socket	1
6	MK2 ST1928-1-43-2	Mounting angle long	2
7	MK2 ST1928-1-43-3	Mounting angle short	2
8	MK2 ST1928-1-44-7FT	Fuel tank stiffener plt	1
9	M6 HANK	Hankbush	10
10	ST1928-1-44-6	Access plate gasket	1
13	MK2 ST1928-1-200	Diesel filler neck fitting C/W filter and cap	1
21	MK2 STC1928-122	Fuel gauge	1
22	1-4-1-4 BANJO		1
23	1-4 BLEED		1
24	MK2 1-4HC	1/4 hose clip	2
26	MK2 1-3/4R	1"-3/4" reducer	1
27	3-8 - 5-16 hose tail		1
28	MK2 5-16X150	SUCTION PIPE	1
29	MK2 1-4-1-4MNN BANJO		1
30	MK2 1-4-516 HT		1
31	MK2 5-15HC	Hose clamp	4
32	3-8 BONDED WASHER	BONDED WASHER	3
33	3-8M - 3-8M connector		1
34	90deg 3-8F - 5-16 hose tail	3/8" female - 5/16" hose tail	1
35	MK2 5-15X	Hose	1
36	90630	M6 bolt x 30	10
37	90602	M6 flat washer	11
38	90603	M6 S/WASHER	10

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		16/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

WEIGHT:

TITLE: fuel tank assembly exploded

DWG NO MK2 ST FUEL TANK

A3

SCALE:1:20

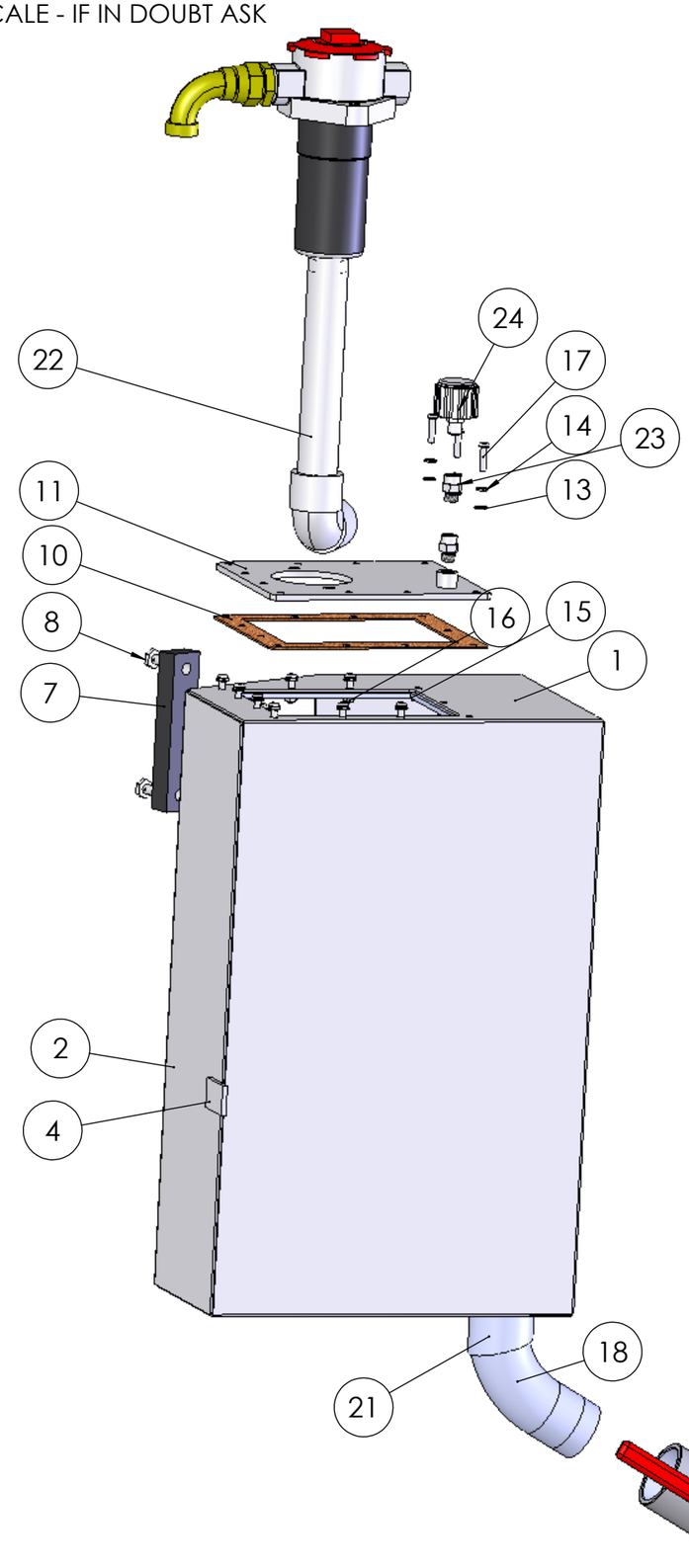
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



ITEM NO.	PART NUMBER	DESCRIPTION	Exploded/QTY.
1	MK2 ST1928-1-44	HYD TANK TOP	1
2	MK2 ST1928-1-44-1	HYD TANK SIDE	1
3	MK2 ST1928-1-44-2	BAFFLE	1
4	MK2 ST1928-1-44-5	TANK TAG	1
5	1.5 INCH BARREL NIPPLE		1
6	RUBBER WASHER		2
7	MK2 C5351650	TANK GAUGE	1
8	HOLLOW BOLT		2
9	FLANGE NUT		2
10	MK2 ST1928-1-44-6	ACCESS PLATE GASKET	1
11	MK2 ST1928-1-44-4	Access plate hyd tank	1
12	1-4 socket		1
13	90602	M6 flat washer	11
14	90603	M6 S/WASHER	11
15	MK2 ST1928-1-44-7	Hyd tank inner stiffening plt	1
16	M6 HANK	HANKBUSH	11
17	90625BH	M6x25 Button head	11
18	2 inch pipe fitting 45deg		1
19	2 inch bsp half nipple		1
20	2inch ball valve FF	RS stock No 465-8990	1
21	MK2 ST1928-1-158	64od x 60id tube x 50	1
22	ST1928-111	RETURN FILTER ASSY	1
23	1-4 Extension	1-4 BSP	2
24	MK2 ST1928-1-150	UCC TANK BREATHER	1

REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		15/7/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:

Hyd tank assy exploded

WEIGHT:

DWG NO. MK2 ST1928-1-44-X

A3

SCALE:1:20

SHEET 1 OF 1

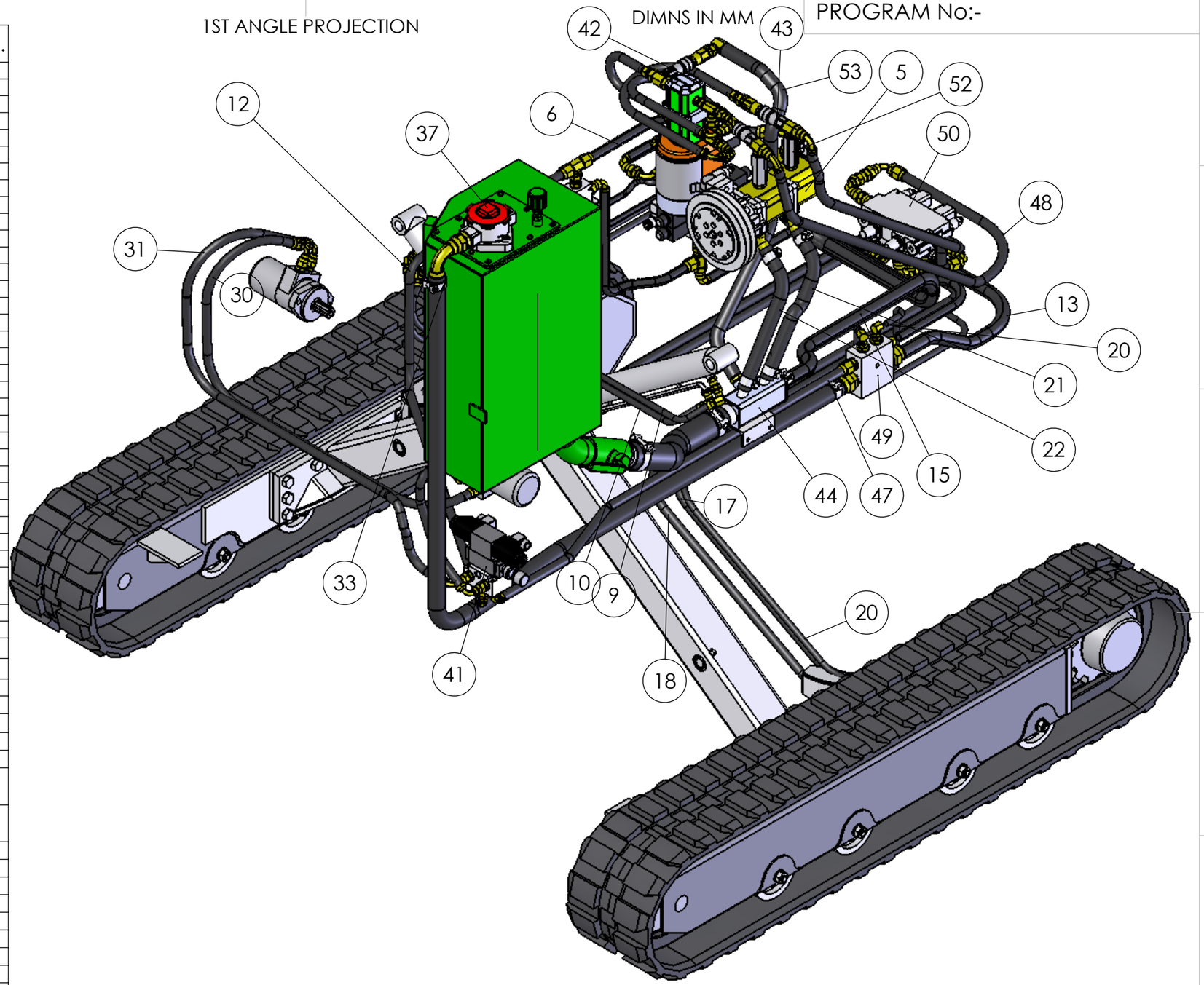
DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
5	TC220102A	CLUTCH/TWIN PUMP ASSY	1
6	HP16	1/2" R2T ST X 90° 250 LONG	1
7	HP15	1/2" R2T ST X 90° 350 LONG	1
8	HP01	1/4" R1T ST X 90° 550 LONG	1
9	HP04	1/4" R2T ST X C90° 900 LONG	1
10	HP05	1/4" R2T ST X C90° 900 LONG	1
11	HP06	1/4" R2T ST X C90° 1300 LONG	1
12	HP07	1/4" R2T ST X C90° 1300 LONG	1
13	HP28	3/4" ST HT X 90° HT 540 LONG	1
14	HP27	3/3" ST HT X 45° HT 1100 LONG	1
15	HP21	3/8" R2T ST X ST 1830 LONG	1
16	HP22	3/8" R2T ST X ST 1830 LONG	1
17	HP19	3/8" R2T ST X ST 2010 LONG	1
18	HP20	3/8" R2T ST X ST 2010 LONG	1
19	HP03	1/4" R1T ST X BANJO 2700 LONG	1
20	HP02	1/4" R1T ST X BANJO 2050 LONG	1
21	HP26	3/4" 45° HT 380 LONG	1
22	HP25	3/4" 45° HT 380 LONG	1
23	HP24	2" X 680 LONG	1
24	HP23	1" 90° HT X ST HT 2000 LONG	1
25	HP13	1/2" R1T ST X BANJO 1150 LONG	1
26	HP14	1/2" R2T ST X ST 1500 LONG	1
27	C200207-1T	TOP ROLLER MOTOR	1
28	C200207-1B	BOTTOM ROLLER MOTOR	1
29	HP08	3/8" R2T ST X 90° 250 LONG	1
30	HP09	3/8" R2T ST X 90° 1250 LONG	1
31	HP10	3/8" R2T ST X 90° 1300 LONG	1
32	SE1324	SUCTION FILTER INSIDE TANK	1
33	27039	HOSE CLIP	1
34	27031	HOSE CLIP	2
35	MK2 ST1928-1-44-A	HYD TANK ASSY	1
36	ST1928-111	RETURN FILTER ASSY	1
41	control valve	ROLLER SOLENOID VALVE	1
42	1-2 QRC-2P-08	1/2" Male quick release	3
43	1-2 QRC-2S-08	1/2" Female quick release	3
44	ST1928-1-105A	SUCTION MANIFOLD	1
47	HP 13	1/2" R1T ST X BANJO 1150 LONG	1
48	HP18	1/2" R2T ST X 90° 1250 LONG	1
49	ST1928-1-106A	RETURN MANIFOLD	1
50	TC220111	TRACK VALVE	1
51	ISKRA AMJ5705	EMERGENCY ELECTRICAL PUMP/MOTOR	1
52	N-RET V 260-6-12	3/4" NON RETURN VALVE	2
53	HP32	3/4" R1T ST X 90° 1200 LONG	1
54	HP30	3/8" R2T ST X ST 450 LONG	2
55	HP12	1/2" R1T ST X 90° 400 LONG	1
56	HP11	1/2" R1T ST X 90° 850 LONG	1
57	HP33	3/8"R2T ST X ST 450 LONG	1
58	C170112	ROLLER RAM PUMP	1
59	HP31	3/8" R2T ST X ST 450 LONG	1
60	TC220103	RAM VALVE	1
61	C251808	3/8 SOLENOID (NO STRESS)	1
62	3LPM 25-350	3/8 PRESSURE RELEIF VALVE	1
63	TC220110	1/2" SOLENOID (TRACK/CHIP)	1



REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		1/10/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:
Hyd Layout
Inc Emergency pump

WEIGHT:

DWG NO.
MK2 ST1928 Hydraulics

A3

SCALE:1:50

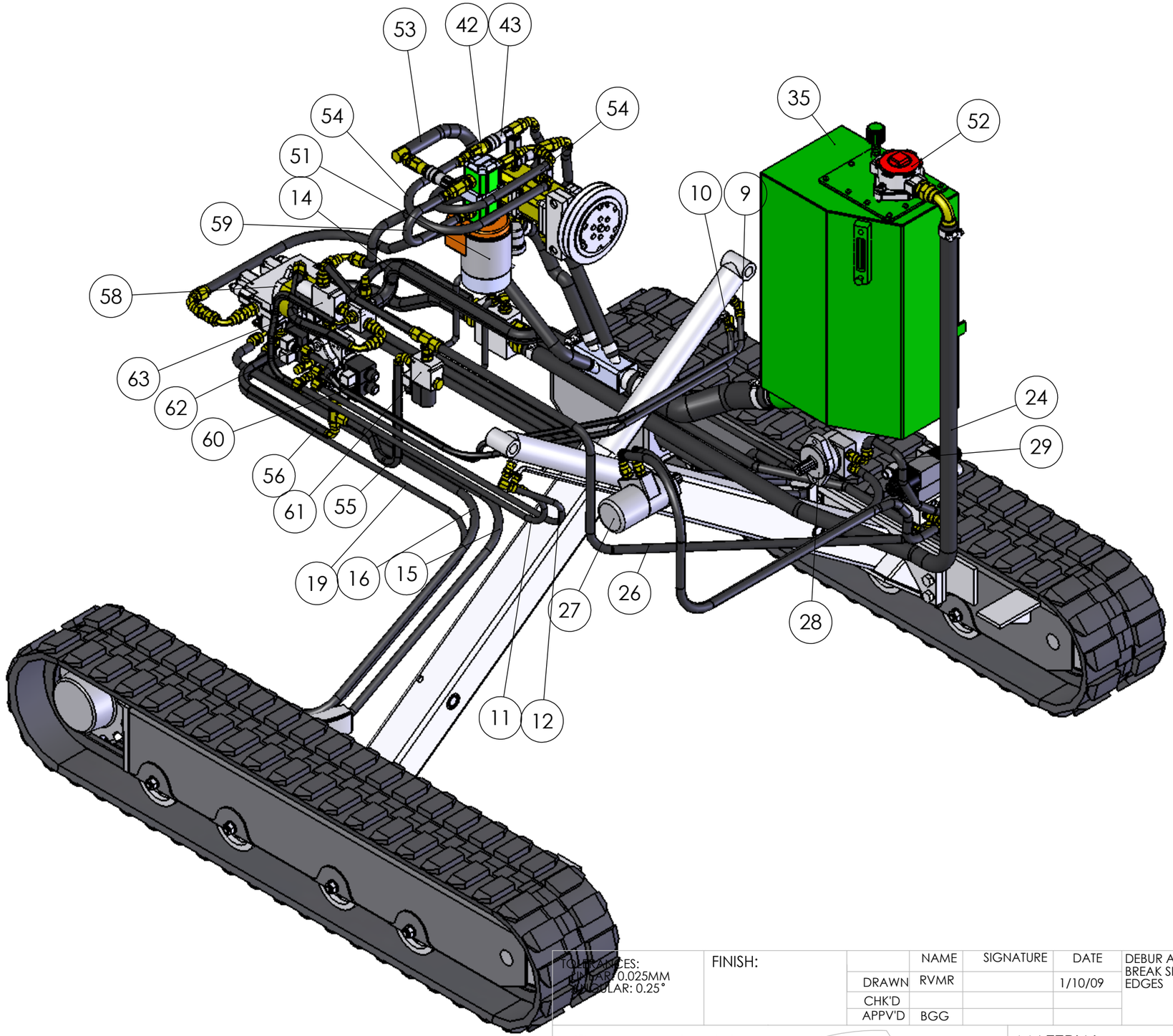
SHEET 1 OF 2

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



TOLERANCES: LINEAR: 0.025MM ANGULAR: 0.25°	FINISH:		NAME	SIGNATURE	DATE	DEBUR AND BREAK SHARP EDGES	TOLERANCES MACHINED PARTS +/- 0.025mm FABRICATED PARTS +/-1.0mm
		DRAWN	RVMR		1/10/09		
		CHK'D					
		APPV'D	BGG				

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE:

WEIGHT:

DWG NO.
MK2 ST1928 Hydraulics

A3

SCALE:1:50

SHEET 2 OF 2

REV	MODIFICATION	DRN	APPD	DATE

DO NOT SCALE - IF IN DOUBT ASK

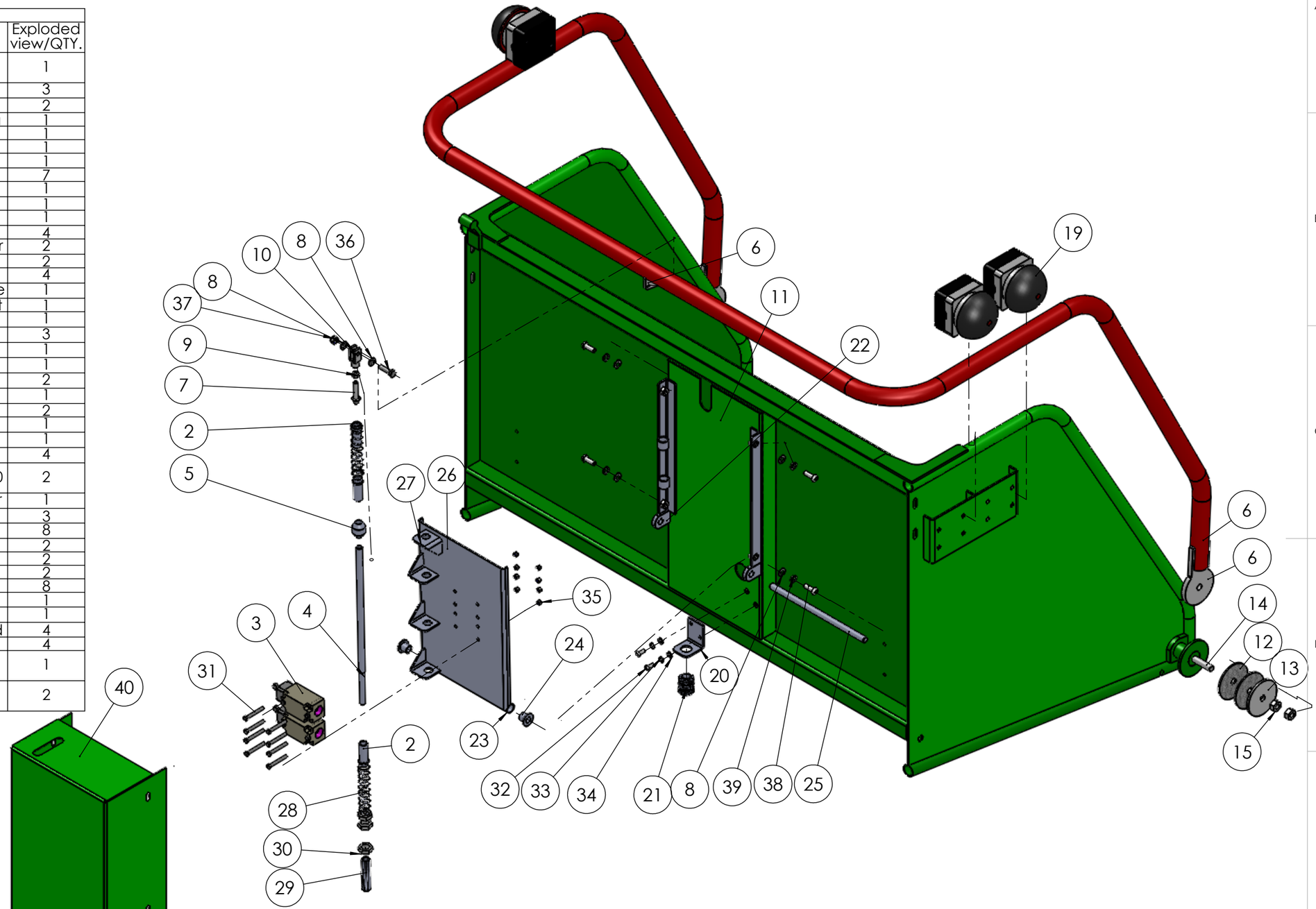
1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-

BOM Table

ITEM NO.	PART NUMBER	DESCRIPTION	Exploded view/QTY.
1	MK2 ST1928-4-70	rear flap centre support	1
2	QC160-4-17	Spring tube	3
3	D4B_1171N	Limit switch	2
4	MK2 ST1928-4-82	activation bar 12dia	1
5	QC160-4-18	Striker boss	1
6	CM170-4-20		1
7	90850STUD	M8 all thread x 50	1
8	90802	M8 flat washer	7
9	90801P	M8 plain nut	1
10	SHORT CLEVIS		1
11	MK2 ST1928-4-8A	Rear flap fab	1
12	CM170-4-69		4
13	CM170-4-59	Large friction washer	2
14	91280STUD	M12 ALLTHREAD	2
15	91201-P	M12 plain nut	4
16	MK2 ST1928-4-11A	Cover location angle	1
17	MK2 ST1928-4-12A	Double switch mount	1
18	MK2 ST1928-4-13A	Single switch mount	1
19	estop	KILL SWITCH	3
20	MK2 ST1928-4-15	Gland clamp angle	1
21	20mm swivel gland	RS No 123793	1
22	MK2 ST1928-4-77	Pivot lug	2
23	MK2 ST1928-4-78	pivot tube	1
24	Shouldered bush	16odx12.2id x 17	2
25	MK2 ST1928-4-79	Pivot pin	1
26	MK2 ST1928-4-80	Pivot plate	1
27	MK2 ST1928-4-81	Slide plate	4
28	Comp spring 2.5dia x 120	Sring masters D13070	2
29	MK2 ST1928-4-84	lower spring adjuster	1
30	91601-T	M16 half lock nut	3
31	90540CH	M5 x 40 caphead	8
32	90616BH	M6 x 16mm B/H	2
33	90603	M6 S/WASHER	2
34	90602	M6 flat washer	2
35	90501-NYLOC	M5 NYLOC NUT	8
36	90830	M8 x 30 bolt	1
37	90801-Nyloc	M8 Nyloc nut	1
38	90825BH	M8 x 25 button head	4
39	90803	M8 S/WASHER	4
40	MK2 ST1928-4-71	rear flap switch cover	1
41	Mk2 ST1928-4-83	Stop collar 16idx20odx18	2



REV	MODIFICATION	DRN	APPD	DATE

TOLERANCES:
LINEAR: 0.025MM
ANGULAR: 0.25°

FINISH:

	NAME	SIGNATURE	DATE
DRAWN	RVMR		18/6/09
CHK'D			
APPV'D	BGG		

DEBUR AND BREAK SHARP EDGES

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/-1.0mm

GreenMech Ltd

The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:
see BOM

TITLE:
Infeed chute - rear flap

WEIGHT:

DWG NO.
MK2 ST1928-4 Flap X

A3

SCALE:1:50

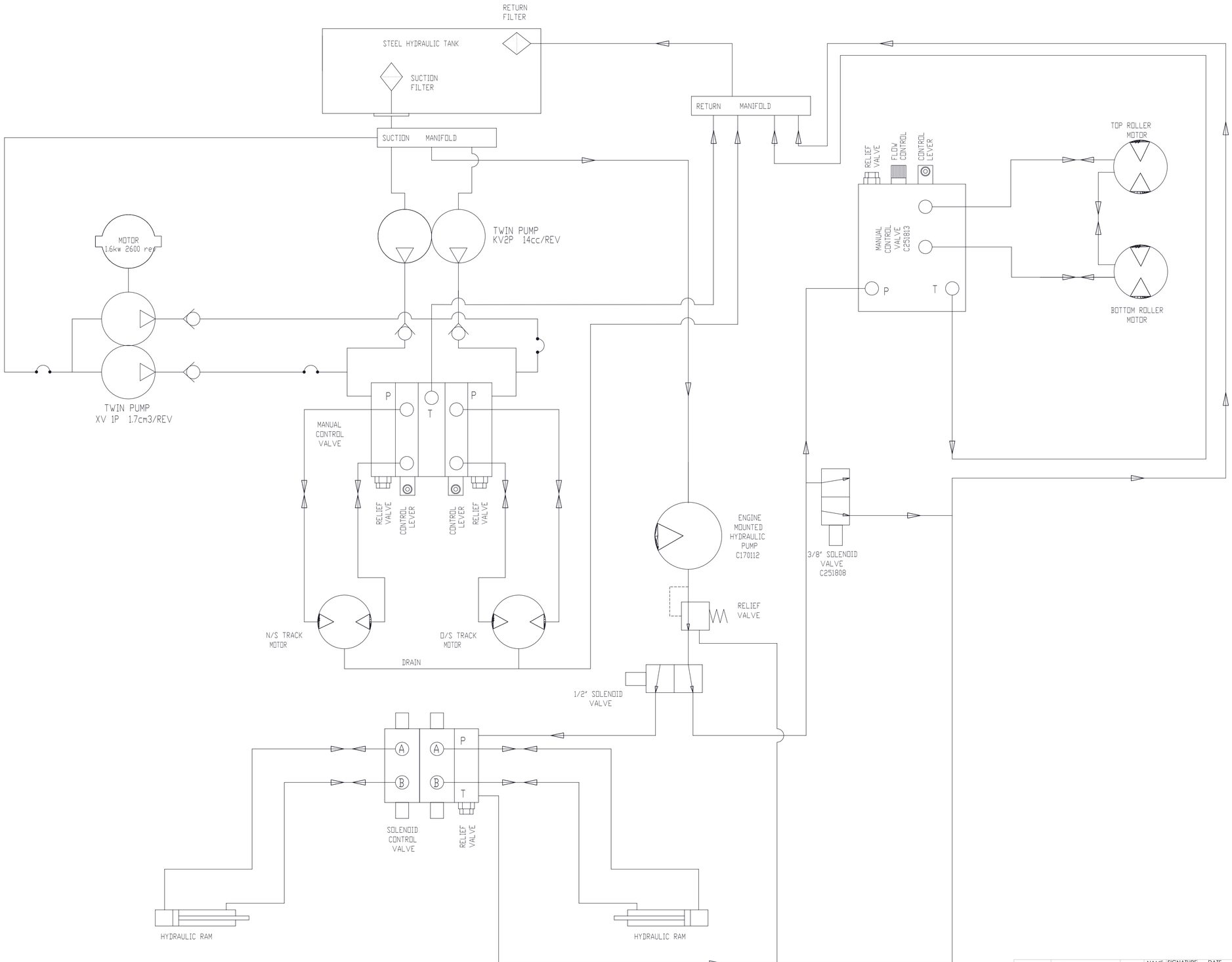
SHEET 1 OF 1

DO NOT SCALE - IF IN DOUBT ASK

1ST ANGLE PROJECTION

DIMNS IN MM

PROGRAM No:-



REV	MODIFICATION	DRAWN	APPRD	DATE

TOLERANCES: LINEAR: 0.025mm ANGULAR: 0.25°	FINISH: xxxxxxxxxx		NAME	SIGNATURE	DATE	DEBUR AND BREAK SHARP EDGES
		DRAWN	RVMR		13/10/09	
		CHK'D				
		APPV'D	BGG			

TOLERANCES
MACHINED PARTS +/- 0.025mm
FABRICATED PARTS +/- 1.0mm

GreenMech Ltd
The Mill Industrial Park
Kings Coughton
Alcester
Warks B49 5QG Tel 01789 400044

MATERIAL:

TITLE: MK2 ST1928 Hyd Layout

WEIGHT:

DWG NO. Hydraulic Schematic

A1

SCALE:1:15

SHEET 1 OF 1

Item No	No Off	Description	Part No	Material

DO NOT SCALE - IF IN DOUBT ASK

THIS DRAWING IS 1ST ANGLE PROJECTION

DIMENSIONS IN MILLIMETERS

BATTERY

ALTERNATOR
PT NO. SI20006

ISOLATOR
PT NO. MT120-8-1001

BUS BAR

EMERGENCY TRACK BUTTON

EMERGENCY TRACKING MOTOR
PT NO. SI20005

STARTER MOTOR
PT NO. SI20005

DRIVER RELAY
PT NO. EC150018/1

ISOLATOR RELAY
PT NO. STC1928128

WINCH
PT NO. STC1928126

RIGHT LEG SENSOR
PT NO. C200908/1

LEFT LEG SENSOR
PT NO. C200908/1

WIRING JUNCTION BOX

40A
25A
2A
10A
TIMER
REVERSE RELAY
HOLD RELAY
FORWARD RELAY
INVERT RELAY
REVERSE SOLENOID
FORWARD SOLENOID

THROTTLE SOLENOID
PT NO. SI20032

FUEL PUMP
PT NO. SI20017

FUEL CONTROL SOLENOID
PT NO. SI20008

HYDRAULIC PUMP CLUTCH FOR TRACK MOTORS
PT NO. TC220102

FLOW DIVERTER SOLENOID
PT NO. TC220110

RIGHT TRACK IN SOLENOID

RIGHT TRACK OUT SOLENOID

RIGHT TRACK EXTENSION SWITCH
PT NO. STM10016

LEFT TRACK OUT SOLENOID

LEFT TRACK IN SOLENOID

LEFT TRACK EXTENSION SWITCH
PT NO. STM10016

CHIP / TRACK SWITCH
PT NO. S460714/3

RDS JUNCTION BOX

RDS DISPLAY

ENGINE TEMP SWITCH
PT NO. SI20011

OIL PRESSURE SWITCH
PT NO. SI20010

GLOW PLUGS
PT NO. SI20007

BONNET MICROSWITCH
PT NO. C200206

THROTTLE BUTTON

FEED IN BUTTON

FEED IN BUTTON

STOP SWITCH

FEED OUT SWITCH

MK2 SAFETRACK 1928
ISUZU 4LE2

Issue	Modifications	Date	Sig	Chkd

TOLERANCE ON ALL OPEN DIMENSIONS	Designed by BGG	Checked by xxx	Approved BGG	Filename xxx	Date 20/8/09	Scale 1/1
MACHINED PARTS +/- 0.25mm	GreenMech LTD	MK2 ST1928 ELECTRICAL				
FABRICATED PARTS +/- 1.0mm	The Mill Industrial Park, Kings Coughton Alcester, Warks B49 5QG Phone 01789 400044	PART NO		Issue A	Sheet 1 OF 1	